

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Daborah Chacko Davis Examiner #: 77255 Date: 10/17/2004
Art Unit: 1756 Phone Number: 571-272-1380 Serial Number: 101026653
Mail Box and Bldg/Room Location: Room 10A28 Results Format Preferred (circle): (PAPER) DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: SYSTEM AND METHODS FOR MANUFACTURING A MOLECULAR FILM
Inventors (please provide full names): Masaya Ishida ; Takashi Miyazawa PATTER

Earliest Priority Filing Date: 12/28/2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

organo silicon compound (radiation-sensitive or photosensitive),
(expos\$4 or irradiat\$4 or illuminat\$4), chemical structure of
claim 1. (claim 1 attached hereto) hits ~ 20.

SCIENTIFIC REFERENCE OF
Sci & Tech Info Ctr

DEC 2

Pat. & T.M. Office

(Closest set toward beginning of printout - tried to anyway.)

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>EA</u>	NA-Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>12-30-04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

=> file reg

FILE 'REGISTRY'

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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=> display history full 11-

FILE 'LREGISTRY'

L1 STR
L2 STR L1

FILE 'REGISTRY'

L3 8 SEA SSS SAM L2
L4 SCR 1838 AND 1044
L5 SCR 1842
L6 33 SEA SSS SAM L2 AND L4 NOT L5
L7 6690 SEA SSS FUL L2 AND L4 NOT L5
SAV L7 CHA653/A
L8 50 SEA SUB=L7 SSS SAM L1
L9 STR L1
L10 10 SEA SUB=L7 SSS SAM L9
L11 275 SEA SUB=L7 SSS FUL L9
SAV L11 CHA653A/A

FILE 'LCA'

L12 7647 SEA (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR
OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR LEAF? OR
FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR
SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR
OVERSPREAD?)/BI,AB

FILE 'HCA'

L13 121 SEA L11
L14 3482 SEA L7
L15 33443 SEA PATTERN?(2A)L12
L16 154970 SEA PHOTORESIST? OR RESIST OR RESISTS OR PHOTOMASK? OR
MASK?
L17 91145 SEA ((PHOTO OR LIGHT OR PHOTOLY?)(2A)(RX# OR RXN# OR
REACT? OR SENSITI? OR POLYM? OR CURE# OR CURING# OR
CURAB? OR CROSSLINK? OR CROSS(W)LINK? OR CAT# OR
CATALY?))/BI,AB
L18 101584 SEA ((ULTRAVIOLET? OR ULTRA(W)VIOLET? OR UV# OR SUV OR
LUV OR RADIA? OR IRRADIA? OR EMANAT? OR EMIT? OR EMISS?
OR LASER?)(2A)(RX# OR RXN# OR REACT? OR REACT? OR POLYM?

OR CURE# OR CURING# OR CURAB? OR CAT# OR CATALY? OR
CROSS(W)LINK? OR CROSSLINK?)/BI,AB
L19 163065 SEA (PHOTORX## OR PHOTOREACT? OR PHOTOSENS? OR PHOTOPOLYM
? OR PHOTOCUR? OR PHOTOHARDEN? OR PHOTOCROSS? OR
PHOTOCAT?)/BI,AB
L20 0 SEA L13 AND L15
L21 16 SEA L13 AND (L16 OR L17 OR L18 OR L19)
L22 1116875 SEA PATTERN? OR DESIGN OR DESIGNS OR DESIGNED OR
DESIGNING#
L23 2 SEA L13 AND L22

FILE 'LCA'

L24 7368 SEA (RADIA? OR IRRAD? OR RAY# OR BEAM? OR EMANAT? OR
EMIT? OR EMISS? OR PHOTOLY? OR BOMBARD? OR HOWITZER? OR
ENERG? (A) SOURC?)/BI,AB

FILE 'HCA'

L25 90333 SEA L24(2A)L12
L26 0 SEA L13 AND L25
L27 4 SEA L14 AND L15
L28 31 SEA L14 AND L25
L29 186 SEA L14 AND (L16 OR L17 OR L18 OR L19)
L30 77 SEA L14 AND L22
L31 19 SEA L29 AND L30
L32 22 SEA L21 OR L23 OR L27
L33 46 SEA (L28 OR L31) NOT L32
L34 16 SEA L31 NOT L32
L35 30 SEA L28 NOT (L32 OR L34)

FILE 'HCAPLUS'

L36 25359 SEA ISHIDA ?/AU
L37 6454 SEA MIYAZAWA ?/AU
L38 81 SEA L36 AND L37
L39 3350 SEA ISHIDA M?/AU
L40 1755 SEA MIYAZAWA T?/AU
L41 2 SEA L39 AND L40
SEL L41 1-2 RN

FILE 'REGISTRY'

L42 8 SEA (1066-35-9/BI OR 157017-89-5/BI OR 472958-02-4/BI OR
L43 6 SEA L42 AND SI/ELS
L44 3 SEA L43 AND RSD/FA

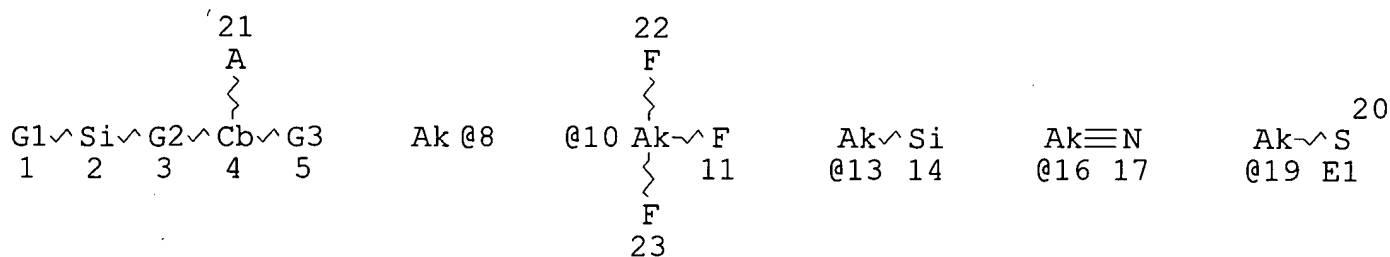
FILE 'HCA'

L45 5 SEA L44
L46 26 SEA L32 OR L45
L47 16 SEA L34 NOT L46
L48 30 SEA L35 NOT (L46 OR L47)

FILE 'REGISTRY'

$$\begin{array}{c} 22 \\ \text{F} \\ \sim \\ \text{Ak} \\ \sim \\ \text{F} \\ 23 \end{array}$$

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L4          SCR 1838 AND 1044
L5          SCR 1842
L7          6690 SEA FILE=REGISTRY SSS FUL L2 AND L4 NOT L5
L9          STR
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=> d 149 1-24 cbib abs hitstr hitind

L49 ANSWER 1 OF 24 HCA COPYRIGHT 2004 ACS on STN

137:317941 Method for forming **patterned** molecular

layer for semiconductor device fabrication for optical imaging devices in electric apparatus. Ishida, Masaya; Miyazawa, Takashi (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2002311592 A2 20021023, 22 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-398537 20011227. PRIORITY: JP 2000-403230 20001228.

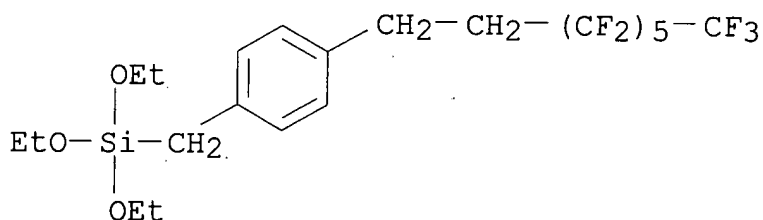
AB The title method includes the steps of: forming a light-sensitive mol. layer on a substrate; and pattern-wise irradiating the mol. layer, wherein the mol. layer contains an organosilane compd. having an arom. hydrocarbon group. The method provide mol. layer of the improved properties on the photolysis.

IT **472958-03-5P 472958-04-6P**

(method for forming **patterned** mol. **layer** for semiconductor device fabrication for optical imaging devices in elec. app.)

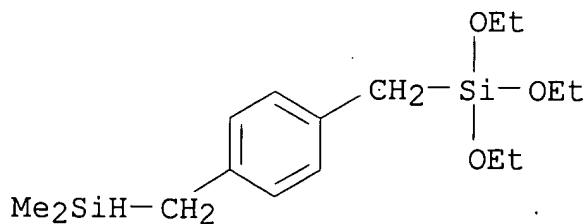
RN 472958-03-5 HCA

CN Silane, triethoxy[[4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)phenyl]methyl]- (9CI) (CA INDEX NAME)



RN 472958-04-6 HCA

CN Silane, [[4-[(dimethylsilyl)methyl]phenyl]methyl]triethoxy- (9CI) (CA INDEX NAME)

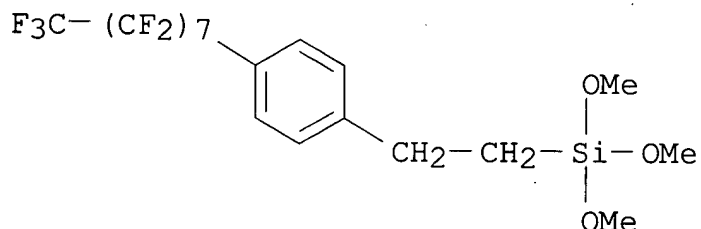


IT 157017-89-5, Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl

]trimethoxy-

(method for forming **patterned** mol. **layer** for semiconductor device fabrication for optical imaging devices in elec. app.)

RN 157017-89-5 HCA

CN Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl]trimethoxy- (9CI)
(CA INDEX NAME)

IC ICM G03F007-075

ICS C08G077-04; G02F001-1333; G02F001-1362; H01L021-027;
H01L021-336; H01L029-786; H01L051-00; H05B033-10; H05B033-14CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 76

ST method **patterned** mol **layer** semiconductor device
optical imagingIT Electric apparatus
Electroluminescent devices

Nanostructures

Optical imaging devices

Photoimaging materials

Semiconductor device fabrication

(method for forming **patterned** mol. **layer** for semiconductor device fabrication for optical imaging devices in elec. app.)IT 78-10-4, Tetraethoxysilane 623-24-5, 4-Bromomethylbenzyl bromide
1066-35-9, Dimethylchlorosilane 472958-02-4(method for forming **patterned** mol. **layer** for semiconductor device fabrication for optical imaging devices in elec. app.)

IT 472958-03-5P 472958-04-6P

(method for forming **patterned** mol. **layer** for semiconductor device fabrication for optical imaging devices in elec. app.)IT 157017-89-5, Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl]
]trimethoxy-(method for forming **patterned** mol. **layer** for semiconductor device fabrication for optical imaging devices in elec. app.)

L49 ANSWER 2 OF 24 HCA COPYRIGHT 2004 ACS on STN

137:233374 Stabilizers based on compounds of sterically hindered phenols and siloxanes. Pallini, Luciano; Bizzarri, Massimo; Neri, Carlo; Farris, Rossella (Great Lakes Chemical (Europe) Ltd., Switz.). Ital. Appl. IT 99MI2158 A1 20010416, 66 pp. (Italian). CODEN: ITXXCZ. APPLICATION: IT 1999-MI2158 19991015.

AB The stabilizers to prevent thermal-oxidative degrdn. of polymers, comprise hydrolyzable chloroalkoxy-silane linked to 3,5-di-tert-butyl-4-hydroxyphenyl propionate, where the siloxane groups undergo hydrolysis and condensation to form polysiloxane chains of 1-2000 repeat units and mol. wt. of 396-756,000, preferably 1500-15,000. The compds. are prepd. by silylation of allyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate with methyl-dialkyl silanes at 0-200.degree., induced by metal **catalysts, UV radiation**, or radical initiators in org. solvents for 0.5 to 10 h, and the product is then subjected to acid hydrolysis and condensation at ambient temp. The resulting compd. is used as heat and oxidn. stabilizer by incorporating with polymers and other additives, e.g., metallocene polyolefins which are suitable for use as elec. insulators. Thus, 5 g allyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate and 3.4 g methyldiethoxysilane were mixed in toluene and silylation proceeded in presence of hexachloroplatinic acid as catalyst at 80.degree. for 4 h, to obtain the siloxane as an oil with b.p. 240.degree.; the product was dissolved in Et ether, ice was added to effect hydrolysis, then 18 mg dibutyltin dilaurate were added and the mixt. was heated to 150.degree. for 8 h to obtain the polysiloxane as a mixt. of oligomers. The stability of HDPE masterbatches contg. the prepd. polysiloxane heat stabilizers and other additives was evaluated by immersion in n-heptane and petroleum jelly.

IT 457911-63-6 457911-64-7

(stabilizer; prepn. and performance of sterically hindered phenol-substituted polysiloxanes as heat stabilizers for polyolefins)

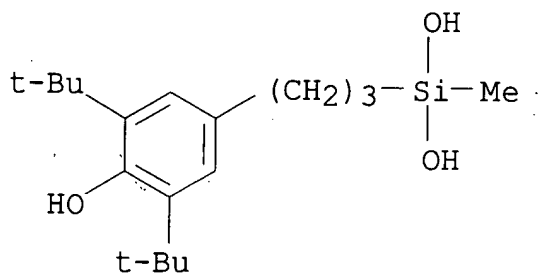
RN 457911-63-6 HCA

CN Silanediol, [3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]propyl]methyl-, homopolymer (9CI) (CA INDEX NAME)

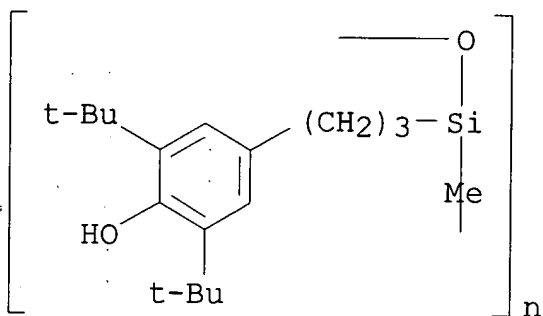
CM 1

CRN 202843-72-9

CMF C18 H32 O3 Si



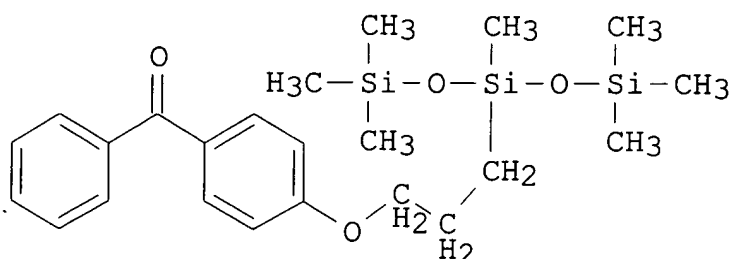
RN 457911-64-7 HCA
 CN Poly[oxy[[3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]propyl]methyilsilylene]] (9CI) (CA INDEX NAME)



IC ICM C08K
 CC 37-2 (Plastics Manufacture and Processing)
 IT 457911-63-6 457911-64-7
 (stabilizer; prepn. and performance of sterically hindered phenol-substituted polysiloxanes as heat stabilizers for polyolefins)

L49 ANSWER 3 OF 24 HCA COPYRIGHT 2004 ACS on STN
 137:34515 Surface-active photoinitiators for scratch-resistant coatings. Baudin, Gisele; Jung, Tunja (Ciba Specialty Chemicals Holding Inc., Switz.). PCT Int. Appl. WO 2002048204 A1 20020620, 98 pp.
 DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-EP14357 20011206. PRIORITY: EP 2000-811185 20001213.

GI



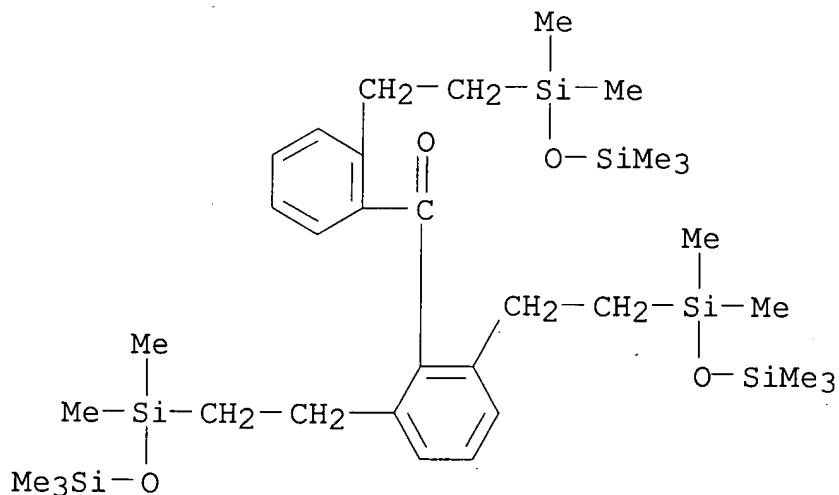
AB A process for the prodn. of coatings having scratch-resistant durable surfaces, in which there are used **photocurable** formulations comprising a surface-active photoinitiator, concd. at the surface of the formulation, selected from keto compds., diketone compds., thioxanthenone compds., and chromen-2-one compds. An Actylan 200-SR 306-SR 399-trimethylolpropane triacrylate copolymer was prepd. using I.

IT **437769-28-3P**

(surface-active photoinitiators for scratch-resistant coatings)

RN 437769-28-3 HCA

CN Methanone, [2,6-bis[2-(pentamethyldisiloxanyl)ethyl]phenyl][2-[2-(pentamethyldisiloxanyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)



IC ICM C08F002-50

ICS G03F007-031; C07C049-784; C07F007-18; C07D335-16; C07D311-00

CC 42-3 (Coatings, Inks, and Related Products)

IT 54687-42-2P 437769-20-5P 437769-21-6P 437769-22-7P

437769-23-8P 437769-24-9P 437769-25-0P 437769-26-1P

437769-27-2P **437769-28-3P** 437769-29-4P 437769-30-7P
437769-31-8P 437769-33-0P

(surface-active photoinitiators for scratch-resistant coatings)

L49 ANSWER 4 OF 24 HCA COPYRIGHT 2004 ACS on STN

136:316861 Electrophotographic photoreceptor, process cartridge, and electrophotographic apparatus. Yamazaki, Itaru; Miki, Nobumichi; Uesugi, Hirotoshi (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2002107968 A2 20020410, 23 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-297343 20000928.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The electrophotog. photoreceptor comprises a **photosensitive** layer and a surface protective layer formed on an elec. conductive support, wherein the surface protective layer contains polyarylate I (X1 = C, single bond; R1-4 = H, halo, alkyl, etc.; R5,6 = H, halo alky, and may form bond; R7-10 = H, halo, alkyl, aryl), polycarbonate II (X2 = X1; R11-14 = H, halo, alky, etc.; R15,16 = H, halo, alkyl, may form bond), a copolymer having repeating units III (R17-22 = H, halo, alkyl, aryl; n = pos. integer) and IV (X3 = X1; R22-26 = H, halo, alkyl, aryl, etc.; R27,28 = H, halo, alkyl, may form bond), and a fluoropolymer powder. The polyarylate and the polycarbonate have viscosity av. mol. wt. 30,000-105,000 (Ma) and 25,000-55,000 (Mc), resp., satisfying Ma>Mc. Also claimed are the process cartridge and the electroiphotog. app.

IT **409335-79-1 409335-80-4**

(surface protective layer of electrophotog. photoreceptor)

RN 409335-79-1 HCA

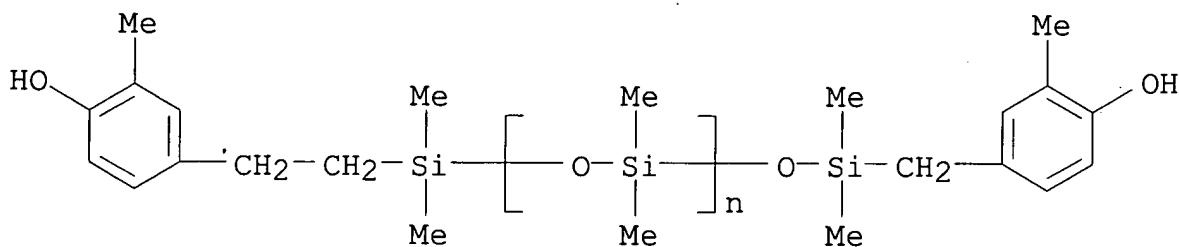
CN Carbonic acid, polymer with .alpha.-[[2-(4-hydroxy-3-methylphenyl)ethyl]dimethylsilyl]-.omega.-[[[(4-hydroxy-3-methylphenyl)methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-21-9

CMF (C2 H6 O Si)n C21 H32 O3 Si2

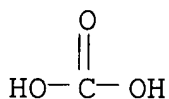
CCI PMS



CM 2

CRN 463-79-6

CMF C H2 O3



RN 409335-80-4 HCA

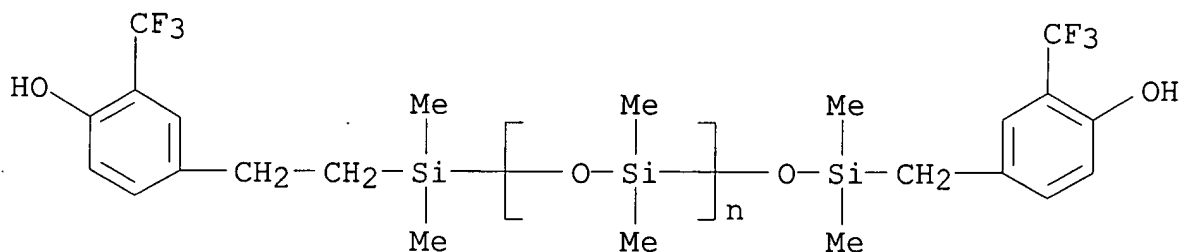
CN Carbonic acid, polymer with .alpha.-[[2-[4-hydroxy-3-(trifluoromethyl)phenyl]ethyl]dimethylsilyl]-.omega.-[[[4-hydroxy-3-(trifluoromethyl)phenyl]methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-23-1

CMF (C2 H6 O Si)n C21 H26 F6 O3 Si2

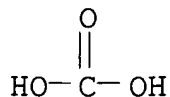
CCI PMS



CM 2

CRN 463-79-6

CMF C H2 O3



IC ICM G03G005-05
ICS G03G005-05; G03G005-00

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

IT 9002-83-9, Trifluorochloroethylene homopolymer 9002-84-0, Lublon L2 24936-68-3, Bisphenol A-carbonic acid copolymer, sru, uses 24937-79-9, Kynar K301F 24981-14-4, Vinyl fluoride homopolymer 25037-45-0, Bisphenol A-carbonic acid copolymer 25135-52-8, Bisphenol Z-carbonic acid copolymer, sru 26471-16-9, Bisphenol Z-carbonic acid copolymer 26500-24-3 26570-63-8, Bisphenol C-carbonic acid copolymer 26985-42-2, Bisphenol AP-carbonic acid copolymer, sru 29250-91-7 39587-76-3 53160-78-4, Dichlorodifluoroethylene homopolymer 67954-51-2 134213-57-3, Pentafluoropropylene-tetrafluoroethylene copolymer 135667-45-7 159967-00-7 409325-61-7 **409335-79-1 409335-80-4**
(surface protective layer of electrophotog. photoreceptor)

L49 ANSWER 5 OF 24 HCA COPYRIGHT 2004 ACS on STN
136:316860 Electrophotographic photoreceptor, process cartridge, and electrophotographic apparatus. Yamazaki, Itaru; Miki, Nobumichi; Uesugi, Hirotoishi (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2002107966 A2 20020410, 19 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2000-299610 20000929.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an electrophotog. photoreceptor having excellent mech. strength and surface smoothness even after the lifetime of the photoreceptor. The electrophotog. photoreceptor is characterized in that a surface layer formed on a **photosensitive** layer contains polyarylate, polycarbonate, and a copolymer. The polyarylate is represented by I (X1 = C, single bond; R1-4 = H, halo, alkyl, aryl, etc.; R5,6 = H, halo, alkyl, aryl, and may form ring; R7-10 = H, halo, alkyl, aryl). The polycarbonate is represented by II (X2 = C, single bond; R11-16 = H, halo, alkyl, aryl; R15 and R16 may form ring). The polyarylate and the polycarbonate have viscosity av. mol. wt. 30,000-105,000 (Ma) and 25,000-55,000 (Mc), resp., and satisfy a relation Ma>Mc. The

copolymer is represented by repeating units III (R17-22 = H, halo, alkyl, aryl; n = pos. integer) and IV (X3 = C, single bond; R23-26 = H, halo, alkyl, aryl; R27,28 = H, halo, alkyl, aryl). The process cartridge and the electrophotog. app. are also claimed.

IT 237429-22-0 409326-43-8

(surface layer of electrophotog. photoreceptors)

RN 237429-22-0 HCA

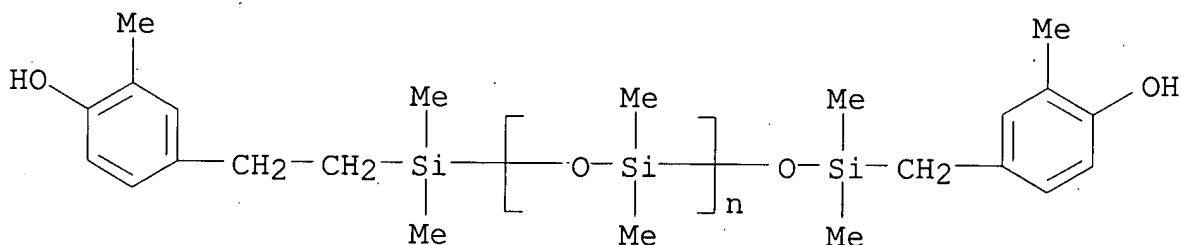
CN Carbonic acid, polymer with .alpha.-[[2-(4-hydroxy-3-methylphenyl)ethyl]dimethylsilyl]-.omega.-[[[(4-hydroxy-3-methylphenyl)methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[2-methylphenol] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-21-9.

CMF (C2 H6 O Si)n C21 H32 O3 Si2

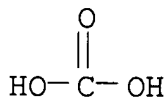
CCI PMS



CM 2

CRN 463-79-6

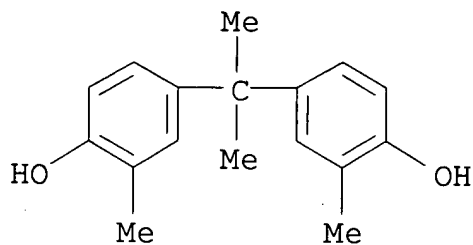
CMF C H2 O3



CM 3

CRN 79-97-0

CMF C17 H20 O2



RN 409326-43-8 HCA

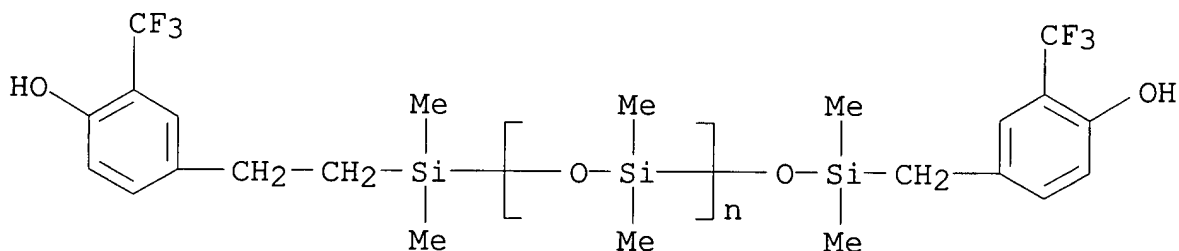
CN Carbonic acid, polymer with .alpha.-[[2-[4-hydroxy-3-(trifluoromethyl)phenyl]ethyl]dimethylsilyl]-.omega.-[[[4-hydroxy-3-(trifluoromethyl)phenyl]methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-phenylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-23-1

CMF (C2 H6 O Si)_n C21 H26 F6 O3 Si2

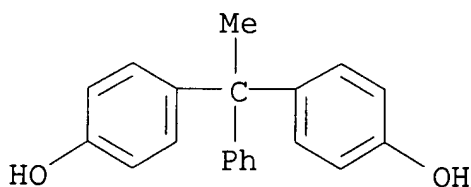
CCI PMS



CM 2

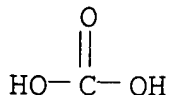
CRN 1571-75-1

CMF C20 H18 O2



CM 3

CRN 463-79-6
CMF C H2 O3



IC ICM G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
IT 25135-52-8 26471-16-9 26590-50-1 38797-88-5 39281-59-9
52684-16-9 200440-43-3 237429-20-8 **237429-22-0**
409325-61-7 **409326-43-8**
(surface layer of electrophotog. photoreceptors)

L49 ANSWER 6 OF 24 HCA COPYRIGHT 2004 ACS on STN
136:316844 Electrophotographic photoreceptor, process cartridge, and electrophotographic apparatus. Yamazaki, Itaru; Miki, Nobumichi; Uesugi, Hirotoishi (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2002107965 A2 20020410, 21 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2000-299609 20000929.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an electrophotog. photoreceptor having excellent mech. strength and surface smoothness even after the lifetime of the photoreceptor. The electrophotog. photoreceptor is characterized in that a surface layer formed on a **photosensitive** layer contains polyarylate, polycarbonate, and a copolymer, and a graft copolymer having Si in the side chain. The polyarylate is represented by I (X1 = C, single bond; R1-4 = H, halo, alkyl, aryl, etc.; R5,6 = H, halo, alkyl, aryl, and may form ring; R7-10 = H, halo, alkyl, aryl). The polycarbonate is represented by II (X2 = C, single bond; R11-16 = H, halo, alkyl, aryl; R15 and R16 may form ring). The polyarylate and the polycarbonate have viscosity av. mol. wt. 30,000-105,000 (Ma) and 25,000-55,000 (Mc), resp., and satisfy a relation Ma>Mc. The copolymer is represented by repeating units III (R17-22 = H, halo, alkyl, aryl; n = pos. integer) and IV (X3 = C, single bond; R23-26 = H, halo, alkyl, aryl; R27,28 = H, halo, alkyl, aryl). The process cartridge and the electrophotog. app. are also claimed.

IT **237429-22-0**

(surface layer of electrophotog. photoreceptor)

RN 237429-22-0 HCA

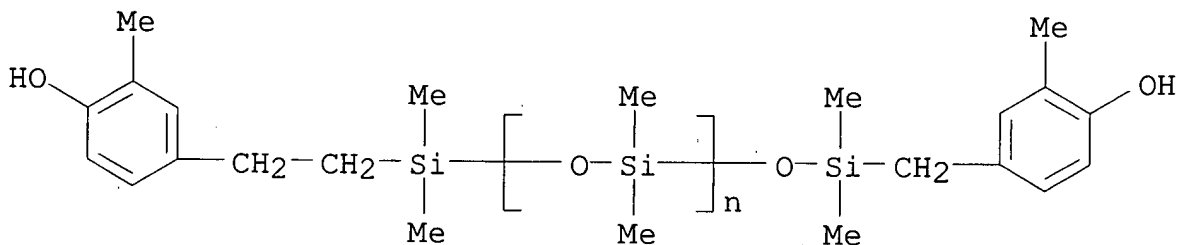
CN Carbonic acid, polymer with .alpha.-[[2-(4-hydroxy-3-methylphenyl)ethyl]dimethylsilyl]-.omega.-[[[(4-hydroxy-3-methylphenyl)methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[2-methylphenol] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-21-9

CMF (C2 H6 O Si)n C21 H32 O3 Si2

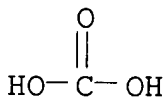
CCI PMS



CM 2

CRN 463-79-6

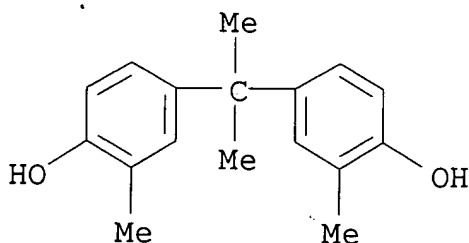
CMF C H2 O3



CM 3

CRN 79-97-0

CMF C17 H20 O2



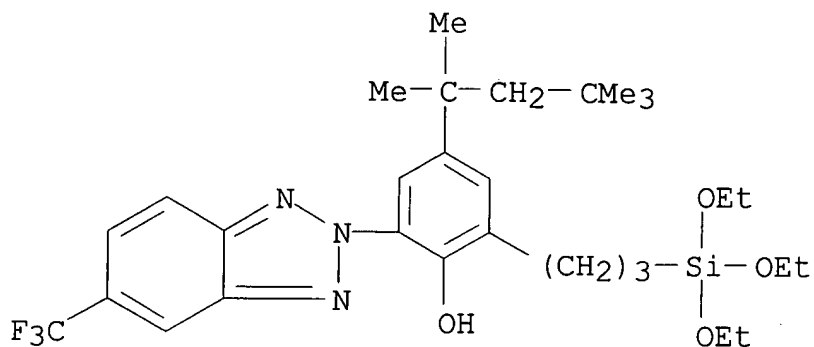
IC ICM G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38
IT 25135-52-8 26471-16-9 26590-50-1 38797-88-5 39281-59-9
52684-16-9 164790-10-7 200440-43-3 210776-95-7 237429-20-8
237429-22-0 345960-48-7 409325-56-0 409325-59-3
409325-61-7
(surface layer of electrophotog. photoreceptor)

L49 ANSWER 7 OF 24 HCA COPYRIGHT 2004 ACS on STN
136:169050 Photostable, silylated benzotriazole UV absorbers and coating
compositions stabilized therewith. Ravichandran, Ramanathan;
Suhadolnik, Joseph; Wood, Mervin Gale; Xiong, Rong (Ciba Specialty
Chemicals Holding Inc., Switz.). PCT Int. Appl. WO 2002012252 A1
20020214, 94 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ,
BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,
EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR,
GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.
(English). CODEN: PIXXD2. APPLICATION: WO 2001-EP8663 20010726.
PRIORITY: US 2000-PV222783 20000803; US 2001-PV303048 20010705.

AB The invention pertains to photostable 2-benzotriazol-2-ylphenol
comps. having a silyl group on .gtoreq.1 of 4-, 5-, 6-position of
the phenol portion and 5-position of the benzotriazole portion and
an electron-withdrawing group on the 5-position of the benzotriazole
portion for use as UV absorbers with good compatibility in
high-performance coatings such as organopolysiloxanes. A typical UV
absorber was manufd. by hydrosilylation of the allyl group of
2-(3-allyl-2-hydroxy-5-tert-octylphenyl)-5-trifluoromethyl-2H-
benzotriazole with (EtO)₃SiH in the presence of Karstedt's catalyst.

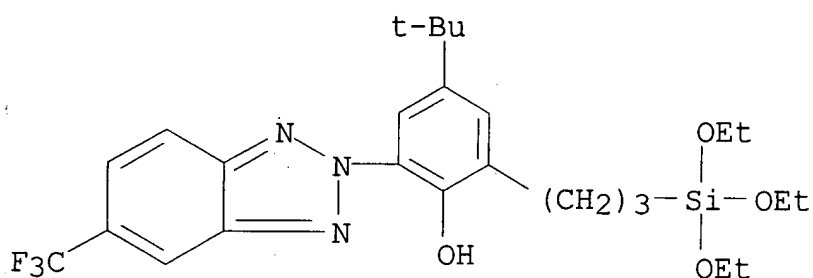
IT **397873-44-8P 397873-45-9P 397873-46-0P**
(photostable, silylated benzotriazole UV absorbers and coating
compns. stabilized therewith)

RN 397873-44-8 HCA
CN Phenol, 4-(1,1,3,3-tetramethylbutyl)-2-[3-(triethoxysilyl)propyl]-6-
[5-(trifluoromethyl)-2H-benzotriazol-2-yl]- (9CI) (CA INDEX NAME)



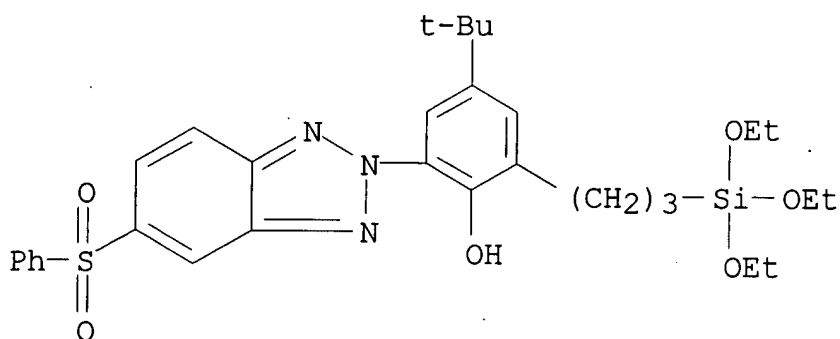
RN 397873-45-9 HCA

CN Phenol, 4-(1,1-dimethylethyl)-2-[3-(triethoxysilyl)propyl]-6-[5-(trifluoromethyl)-2H-benzotriazol-2-yl]- (9CI) (CA INDEX NAME)



RN 397873-46-0 HCA

CN Phenol, 4-(1,1-dimethylethyl)-2-[5-(phenylsulfonyl)-2H-benzotriazol-2-yl]-6-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



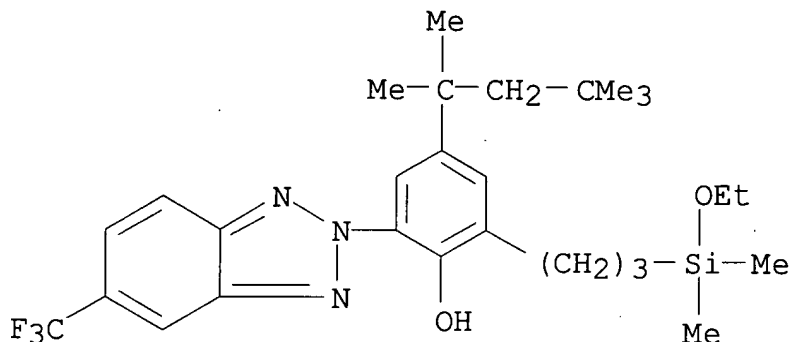
IT 397873-61-9

(photostable, silylated benzotriazole UV absorbers and coating compns. stabilized therewith)

RN 397873-61-9 HCA

CN Phenol, 2-[3-(ethoxydimethylsilyl)propyl]-4-(1,1,3,3-

tetramethylbutyl)-6-[5-(trifluoromethyl)-2H-benzotriazol-2-yl]-
(9CI) (CA INDEX NAME)



- IC ICM C07F007-18
ICS C07D249-20; C08K005-544
- CC 42-5 (Coatings, Inks, and Related Products)
- IT Ionomers
Polyamides, uses
Polyesters, uses
Polymer blends
Polyoxymethylenes, uses
Polyurethanes, uses
Polyvinyl butyrals
(photostable, silylated benzotriazole UV absorbers for polymers)
- IT 106-95-6, Allyl bromide, reactions 140-66-9,
4-tert-Octylphenol 400-98-6, 4-Amino-3-nitrobenzotrifluoride
998-30-1, Triethoxysilane 73936-80-8, 2-.alpha.-Cumyl-4-tert-octylphenol
(UV absorber precursor; photostable, silylated benzotriazole UV absorbers and coating compns. stabilized therewith)
- IT 182806-41-3P **397873-44-8P 397873-45-9P**
397873-46-0P 397873-47-1P 397873-48-2P 397873-49-3P
397873-50-6P
(photostable, silylated benzotriazole UV absorbers and coating compns. stabilized therewith)
- IT 397873-51-7 397873-52-8 397873-53-9 397873-54-0 397873-55-1
397873-57-3 397873-59-5 **397873-61-9** 397873-62-0
397873-63-1 397873-64-2
(photostable, silylated benzotriazole UV absorbers and coating compns. stabilized therewith)
- IT 79-10-7D, Acrylic acid, esters, polymers 9002-86-2, PVC
9003-07-0, Polypropylene 9003-56-9, ABS polymer 9020-32-0
9020-73-9, Polyethylene naphthalenedicarboxylate 24968-12-5,
Polybutylene terephthalate 25038-59-9, PET polymer, uses

25640-14-6, PETG 26062-94-2, Polybutylene terephthalate
(photostable, silylated benzotriazole UV absorbers for
polymers)

L49 ANSWER 8 OF 24 HCA COPYRIGHT 2004 ACS on STN

134:107958 Electrophotographic photoreceptor for electrophotographic
apparatus and process cartridge. Fujimoto, Shingo; Watanabe,
Kazumasa; Shibata, Toyoko; Sakimura, Tomoko (Konica Co., Japan).
Jpn. Kokai Tokkyo Koho JP 2001013707 A2 20010119, 28 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-187440 19990701.

AB The electrophotog. photoreceptor comprises a **photosensitive**
layer and a resin layer formed on an elec. conductive support,
wherein the resin layer contains at least a crosslinked siloxane
resin obtained from (1) A(R1Si(R2)m(Z1)3-m)n or A(R3OH)1 and (2)
(R4)rSi(Z2)4-r (A = mono or polyvalent antioxidn. group; R1,3 =
single bond, divalent group; R2 = monovalent hydrocarbon; Z1,2 = OH,
hydrolyzable group; m = 0-2; n, 1 = 1-4; r = 0-3). The
electrophotog. app. and the process cartridge using the
electrophotog photoreceptor are also claimed.

IT 319926-69-7

(electrophotog. photoreceptor for electrophotog. app. and process
cartridge)

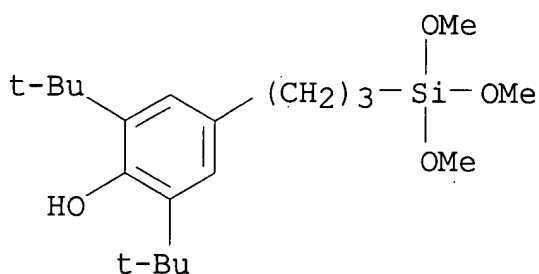
RN 319926-69-7 HCA

CN Phenol, 2,6-bis(1,1-dimethylethyl)-4-[3-(trimethoxysilyl)propyl]-,
polymer with dimethoxydimethylsilane and trimethoxymethylsilane
(9CI) (CA INDEX NAME)

CM 1

CRN 73956-48-6

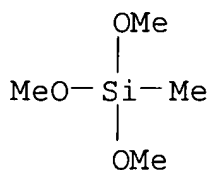
CMF C20 H36 O4 Si



CM 2

CRN 1185-55-3

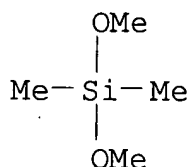
CMF C4 H12 O3 Si



CM 3

CRN 1112-39-6

CMF C4 H12 O2 Si



IC ICM G03G005-147

ICS G03G005-07

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

IT **319926-69-7** 319926-71-1 319926-73-3 319926-75-5
319926-77-7 319926-79-9 319926-80-2 319926-81-3 319926-82-4
(electrophotog. photoreceptor for electrophotog. app. and process cartridge)

L49 ANSWER 9 OF 24 HCA COPYRIGHT 2004 ACS on STN

133:185488 Electrophotographic photoreceptor for process cartridge of electrophotographic apparatus. Uesugi, Hirotoishi; Tanaka, Takakazu (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2000221721 A2 **20000811**, 21 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-20286 19990128.

AB The invention relates to an electrophotog. photoreceptor has a **light-sensitive** layer on an electroconductive support, wherein the surface layer of the electrophotog. photoreceptor has a polymer resin contg. 5,000-20,000 wt. av. mol. wt., which is before a condensation reaction to introduce substituents, of polycarbonate or polyarylate having substitute $-(\text{CH}_2)_m\text{-Si}(\text{R}_1)(\text{OR}_2)_{3-m}$ (R1 = alkyl, aryl; R2 = alkyl; m = 0-8 integer; n = 0-2 integer), (which is condensate by heat) in the side chain. The electrophotog. photoreceptor shows the excellent solvent-cracking resistance, durability, and the charging characteristics.

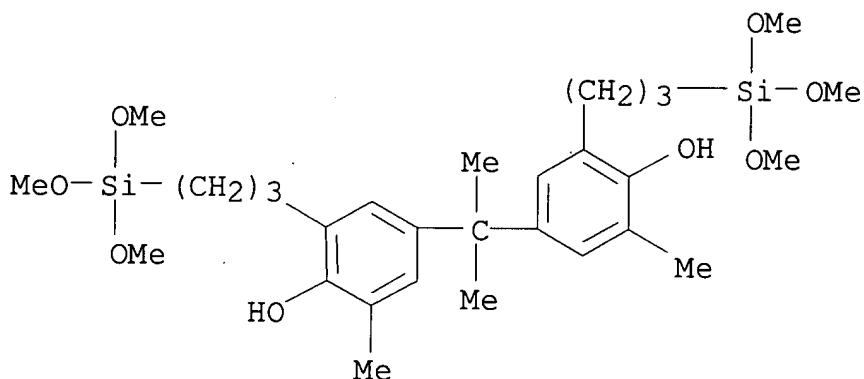
IT **288373-20-6P 288374-59-4P 288374-61-8P**

(polymer in electrophotog. photoreceptor)
 RN 288373-20-6 HCA
 CN Phenol, 4,4'-(1-methylethylidene)bis[2-methyl-6-[3-(trimethoxysilyl)propyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 288373-19-3

CMF C29 H48 O8 Si2



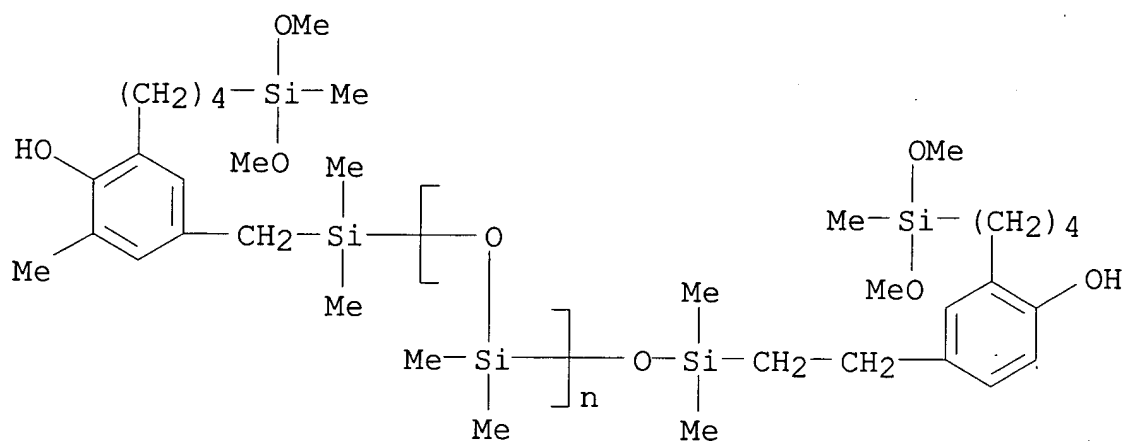
RN 288374-59-4 HCA
 CN Carbonic acid, polymer with 4,4'-cyclohexylidenebis[phenol] and .alpha.-[[[3-[4-(dimethoxymethylsilyl)butyl]-4-hydroxy-5-methylphenyl]methyl]dimethylsilyl]-.omega.-[[[2-[3-[4-(dimethoxymethylsilyl)butyl]-4-hydroxyphenyl]ethyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 288374-58-3

CMF (C2 H6 O Si)_n C34 H62 O7 Si4

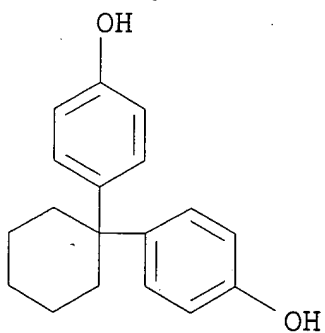
CCI PMS



CM 2

CRN 843-55-0

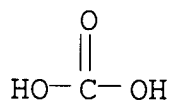
CMF C18 H20 O2



CM 3

CRN 463-79-6

CMF C H2 O3



RN 288374-61-8 HCA

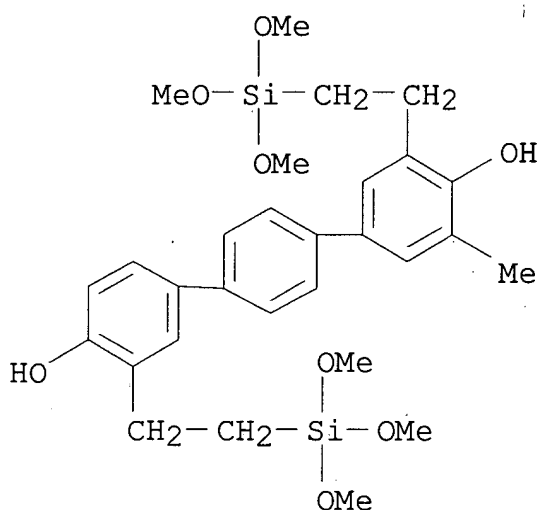
CN Carbonic acid, polymer with 4,4'-cyclohexylidenebis[phenol] and 3-methyl-3'',5-bis[2-(trimethoxysilyl)ethyl][1,1':4',1''-terphenyl]-

4,4''-diol (9CI) (CA INDEX NAME)

CM 1

CRN 288374-60-7

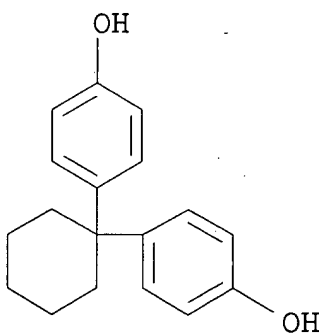
CMF C29 H40 O8 Si2



CM 2

CRN 843-55-0

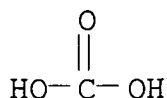
CMF C18 H20 O2



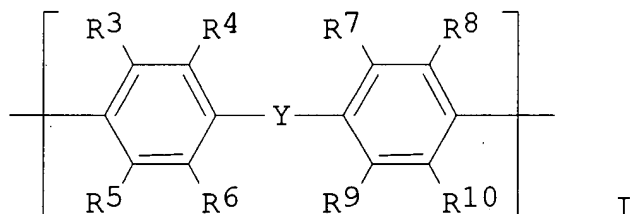
CM 3

CRN 463-79-6

CMF C H2 O3



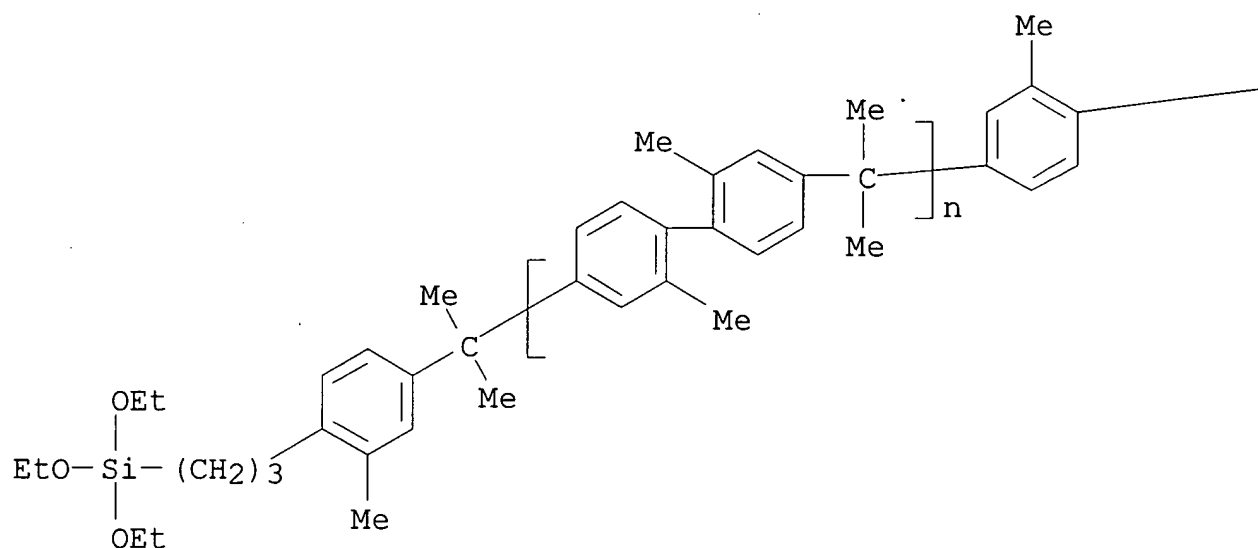
- IC ICM G03G005-147
ICS G03G005-147; G03G005-05
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT 208931-10-6P 288373-16-0P 288373-18-2P **288373-20-6P**
288374-59-4P 288374-61-8P
(polymer in electrophotog. photoreceptor)
- L49 ANSWER 10 OF 24 HCA COPYRIGHT 2004 ACS on STN
133:185470 Electrophotographic photoreceptor for process cartridge of electrophotographic apparatus. Hirano, Hidetoshi; Tanaka, Takakazu (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2000221720 A2
20000811, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
JP 1999-20285 19990128.
- GI



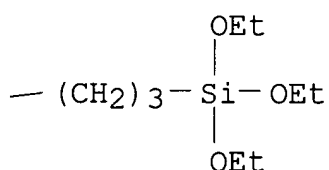
- AB The invention relates to an electrophotog. photoreceptor having a **light-sensitive** layer on an electroconductive support, wherein the surface layer of the electrophotog. photoreceptor has a polymer resin contg. repeating unit I (Y = -CR11R12- (R11-13 = H, C1-6 = alkyl, C6-12 aryl), C5-11 1,1-cycloalkylene, C2-10 alkylene, single bond, -O-, etc.; R3-10 = H, halo, alkyl, aryl), and terminal groups -(CH2)m-Si(R1)n(OR2)3-n (R1 = alkyl, aryl; R2 = alkyl; m = 2-8 integer; n = 0-2 integer). The electrophotog. photoreceptor shows the excellent solvent-cracking resistance, durability, and the charging characteristics.
- IT **288398-98-1P 288398-99-2P**
(polymer for surface layer of electrophotog. photoreceptor)
- RN 288398-98-1 HCA
- CN Poly[(2,2'-dimethyl[1,1'-biphenyl]-4,4'-diyl)(1-methylethylidene)],

.alpha.-[1-methyl-1-[3-methyl-4-[3-(triethoxysilyl)propyl]phenyl]ethyl]-.omega.-[3-methyl-4-[3-(triethoxysilyl)propyl]phenyl]- (9CI)
(CA INDEX NAME)

PAGE 1-A

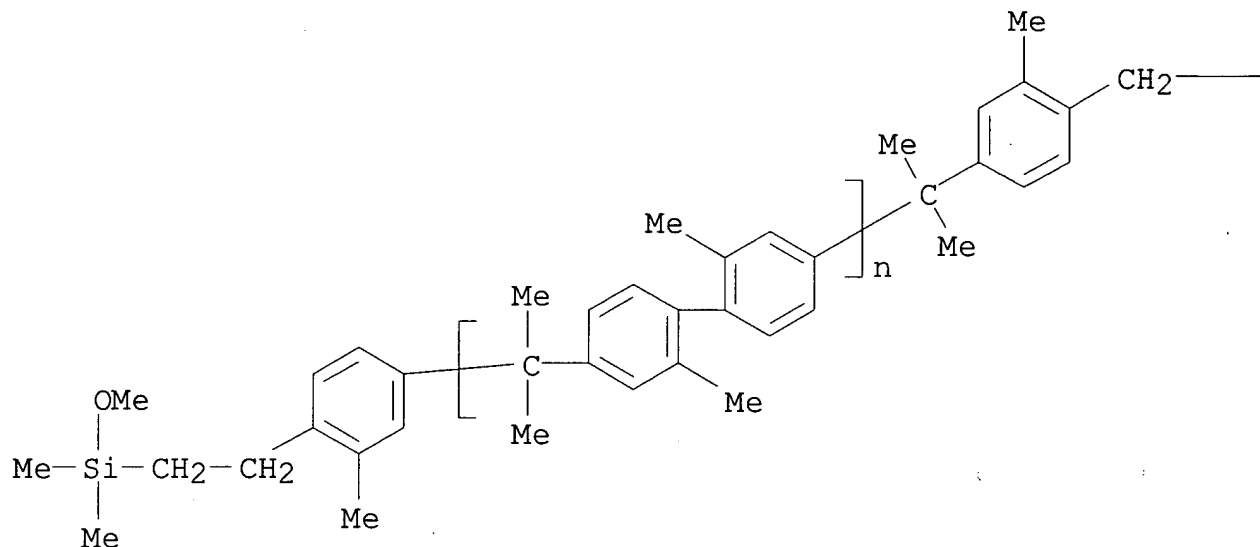


PAGE 1-B

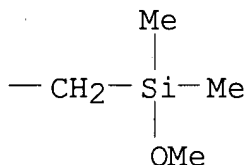


RN 288398-99-2 HCA
CN Poly[(2,2'-dimethyl[1,1'-biphenyl]-4,4'-diyl) (1-methylethylidene)],
.alpha.-[1-[4-[2-(methoxydimethylsilyl)ethyl]-3-methylphenyl]-1-methylethyl]-.omega.-[4-[2-(methoxydimethylsilyl)ethyl]-3-methylphenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-147
ICS G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 288398-96-9P 288398-97-0P **288398-98-1P**
288398-99-2P 288399-00-8P 288399-01-9P 288399-02-0P
288399-03-1P 288399-04-2P 288399-05-3P 288399-06-4P
(polymer for surface layer of electrophotog. photoreceptor)

L49 ANSWER 11 OF 24 HCA COPYRIGHT 2004 ACS on STN
131:163350 Electrophotographic photoreceptor with surface layer containing polymer blend, process cartridge, and electrophotographic apparatus. Yamazaki, Itaru; Miki, Nobumichi; Yoshida, Akira; Uesugi, Hirotoishi (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 11212289 A2 **19990806** Heisei, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-16776 19980129.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title photoreceptor comprises a conductive support coated with a **photosensitive** layer of which the surface layer contains (a) a polyarylate having a repeating unit I, (b) a polycarbonate having a repeating unit II, (c) a copolymer having repeating units III and IV [X 1-3 = C, single bond (in this case R5, R6, R15, R16, R27, and R28 are not present); R1-26 = H, halo, (substituted) alkyl, aryl, R5 and R6, R15 and R16, and R27 and R28 may link each other to form an alkylidene group], and (d) a fluoro resin powder and/or a graft polymer contg. a polymg. monomer having Si in its side chain as a constituent component. A process cartridge including the photoreceptor and charging, developing, and cleaning means and an electrophotog. app. including the cartridge are also claimed. The photoreceptor shows high mech. strength and surface slipperiness in repeated use and good electrophotog. properties.

IT 237429-22-0 237429-24-2

(electrophotog. photoreceptor with surface layer contg. polymer blends)

RN 237429-22-0 HCA

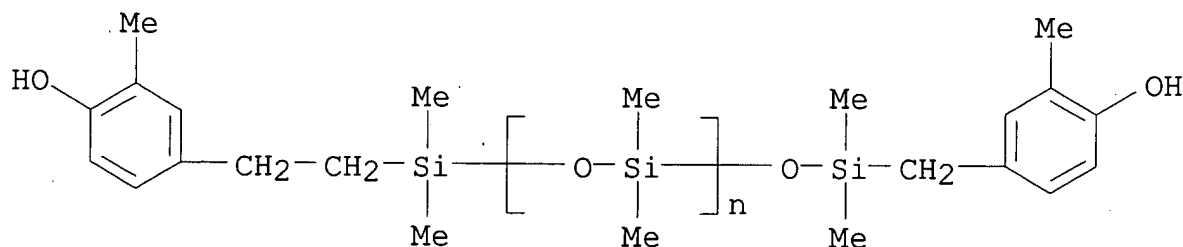
CN Carbonic acid, polymer with .alpha.-[[2-(4-hydroxy-3-methylphenyl)ethyl]dimethylsilyl]-.omega.-[[[(4-hydroxy-3-methylphenyl)methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[2-methylphenol] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-21-9

CMF (C2 H6 O Si)_n C21 H32 O3 Si2

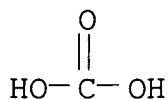
CCI PMS



CM 2

CRN 463-79-6

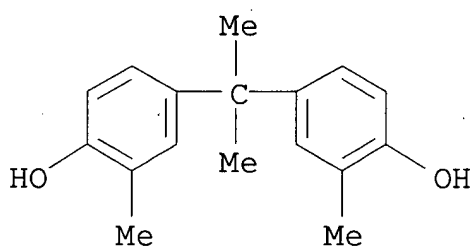
CMF C H2 O3



CM 3

CRN 79-97-0

CMF C17 H20 O2



RN 237429-24-2 HCA

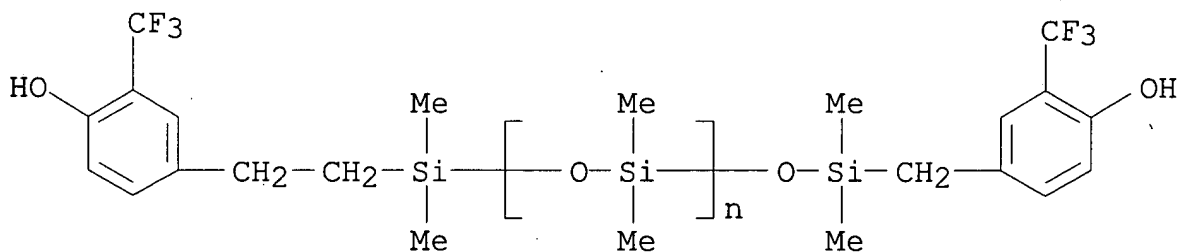
CN Carbonic acid, polymer with .alpha.-[[2-[4-hydroxy-3-(trifluoromethyl)phenyl]ethyl]dimethylsilyl]-.omega.-[[[4-hydroxy-3-(trifluoromethyl)phenyl]methyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-phenylethylidene)bis[2-methylphenol] (9CI) (CA INDEX NAME)

CM 1

CRN 237429-23-1

CMF (C2 H6 O Si)_n C21 H26 F6 O3 Si2

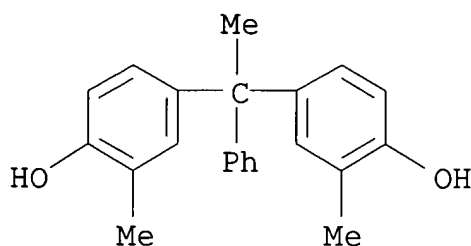
CCI PMS



CM 2

CRN 4754-63-6

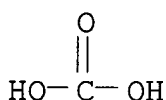
CMF C22 H22 O2



CM 3

CRN 463-79-6

CMF C H2 O3



IC ICM G03G005-147

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 9002-83-9, Chlorotrifluoroethene homopolymer 9002-84-0
 9002-86-2, Vinyl chloride homopolymer 24936-68-3, Bisphenol
 A-carbonic acid copolymer, sru, uses 24937-79-9 25037-45-0,
 Bisphenol A-carbonic acid copolymer 25067-11-2 25120-58-5,
 Hexafluoropropylene-vinyl fluoride copolymer 26500-24-3
 26570-63-8, Bisphenol C-carbonic acid copolymer 38797-88-5
 39281-45-3 39281-59-9 52684-16-9 53160-78-4 67016-92-6
 118175-65-8 135667-45-7 153344-14-0 162872-05-1 164063-76-7
 200440-43-3 237429-19-5 237429-20-8 **237429-22-0**
237429-24-2 237429-25-3 237429-30-0
 (electrophotog. photoreceptor with surface layer contg. polymer blends)

L49 ANSWER 12 OF 24 HCA COPYRIGHT 2004 ACS on STN

129:74008 Electrophotographic photoreceptor, process cartridge and electrophotographic apparatus. Tanaka, Takakazu; Kitamura, Wataru; Yoshida, Akira; Uesugi, Hirotooshi; Hirano, Hidetoshi; Anayama, Hideki (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 10133408 A2 **19980522** Heisei, 44 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1997-238285 19970903. PRIORITY: JP 1996-236753 19960906.

AB In an electrophotog. photoreceptor comprising a

photosensitive layer placed on a conductive support, the photoreceptor has a protective coating made up of a polycarbonate having a side chain group $-(CH_2)_mSiR_1n(OR_2)_{3-n}$ [R_1 = alkyl, aryl; R_2 = alkyl; m = 1-8; n = 0-2]. The photoreceptor shows improved mech. strength and solvent-resistance.

IT 208931-17-3 208931-37-7 208931-38-8

208931-40-2 208931-41-3

(protective coating of electrophotog. photoreceptor for improving durability and solvent-resistance)

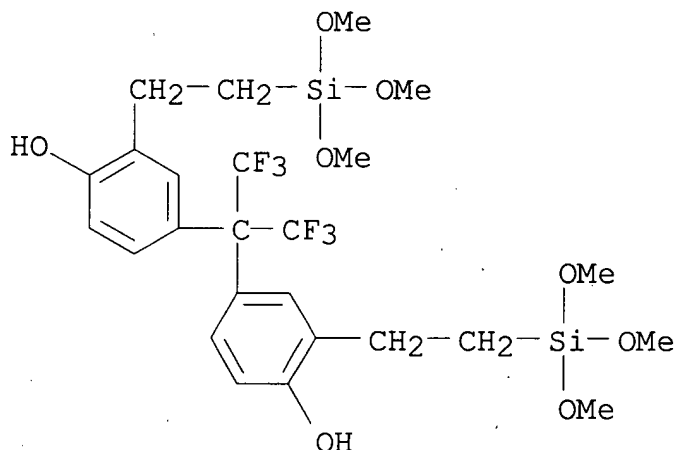
RN 208931-17-3 HCA

CN Carbonic acid, polymer with 4,4'-cyclohexylidenebis[phenol] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-[2-(trimethoxysilyl)ethyl]phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 208931-16-2

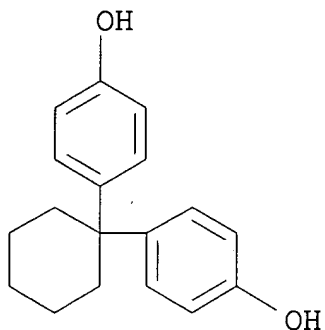
CMF C25 H34 F6 O8 Si2



CM 2

CRN 843-55-0

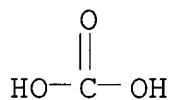
CMF C18 H20 O2



CM 3

CRN 463-79-6

CMF C H2 O3



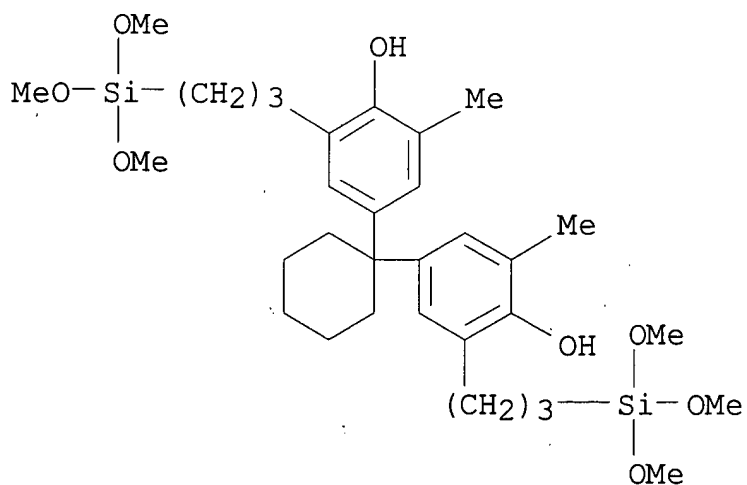
RN 208931-37-7 HCA

CN Benzenedicarboxylic acid, polymer with 4,4'-cyclohexylidenebis[2-methyl-6-[3-(trimethoxysilyl)propyl]phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 208931-36-6

CMF C32 H52 O8 Si2

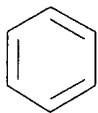


CM 2

CRN 29010-86-4

CMF C8 H6 O4

CCI IDS

2 [D1-CO₂H]

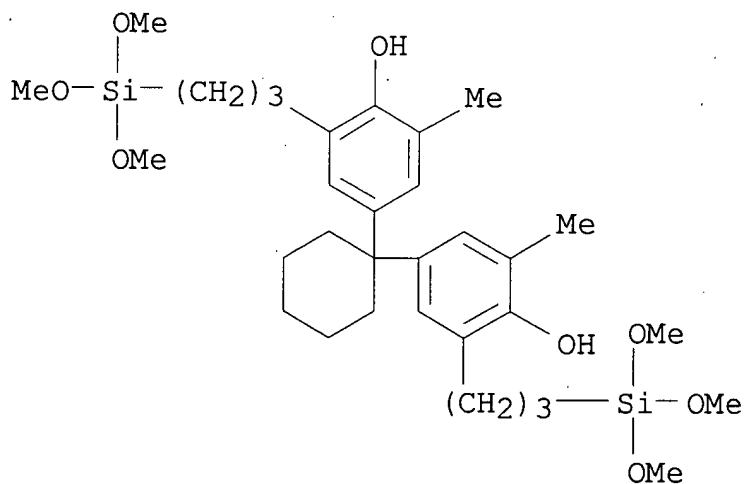
RN 208931-38-8 HCA

CN Benzenedicarboxylic acid, polymer with 4,4'-cyclohexylidenebis[2-methyl-6-[3-(trimethoxysilyl)propyl]phenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 208931-36-6

CMF C32 H52 O8 Si2

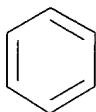


CM 2

CRN 29010-86-4

CMF C8 H6 O4

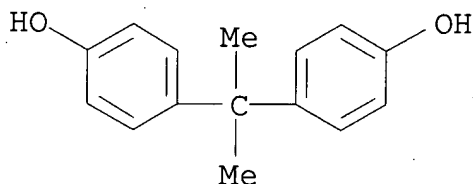
CCI IDS

2 [D1-CO₂H]

CM 3

CRN 80-05-7

CMF C15 H16 O2



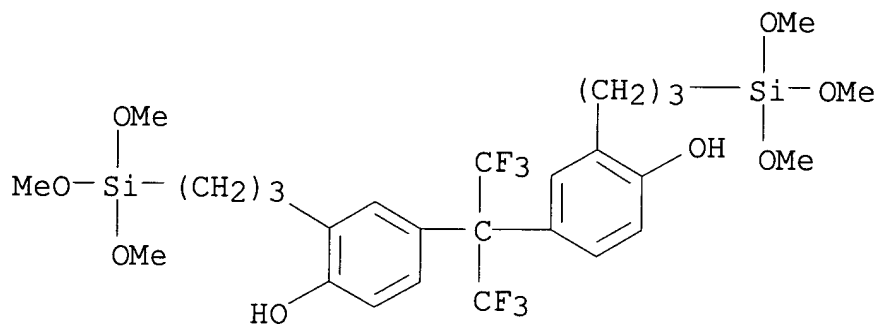
RN 208931-40-2 HCA

CN Benzenedicarboxylic acid, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-[3-(trimethoxysilyl)propyl]phenol]
(9CI) (CA INDEX NAME)

CM 1

CRN 208931-39-9

CMF C27 H38 F6 O8 Si2

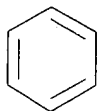


CM 2

CRN 29010-86-4

CMF C8 H6 O4

CCI IDS

2 [D1-CO₂H]

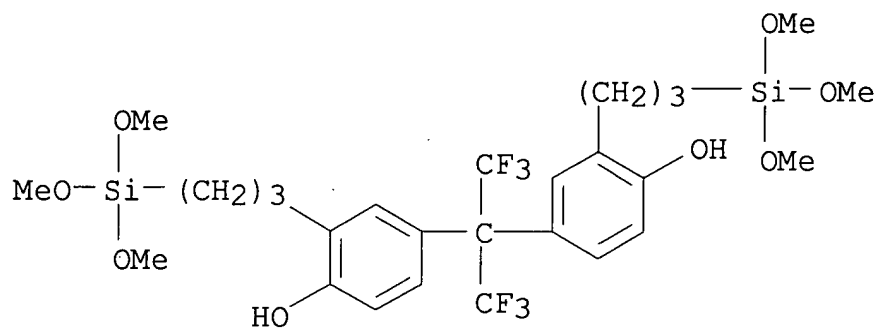
RN 208931-41-3 HCA

CN Benzenedicarboxylic acid, polymer with 4,4'-
cyclohexylidenebis[phenol] and 4,4'-[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]bis[2-[3-(trimethoxysilyl)propyl]phenol]
(9CI) (CA INDEX NAME)

CM 1

CRN 208931-39-9

CMF C27 H38 F6 O8 Si2

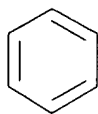


CM 2

CRN 29010-86-4

CMF C8 H6 O4

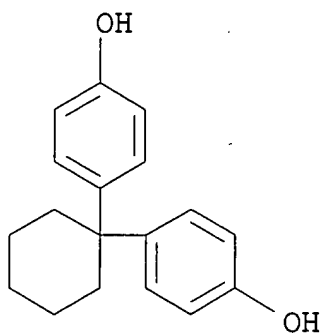
CCI IDS

2 [D1-CO₂H]

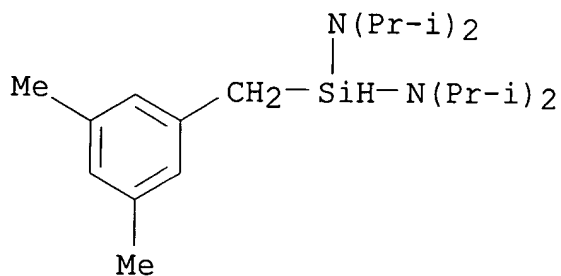
CM 3

CRN 843-55-0

CMF C18 H20 O2



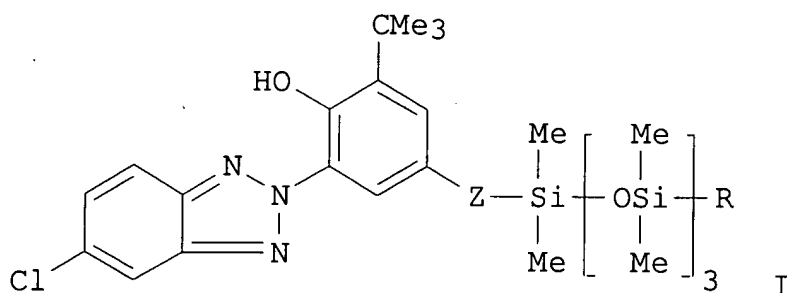
- IC ICM G03G005-147
ICS C08G061-10; C08G063-695; C08G064-08; C08L083-04
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42
- IT 208931-08-2 208931-09-3 208931-10-6 208931-12-8 208931-13-9
208931-15-1 **208931-17-3** 208931-19-5 208931-21-9
208931-23-1 208931-25-3 208931-27-5 208931-29-7 208931-31-1
208931-33-3 208931-34-4 208931-35-5 **208931-37-7**
208931-38-8 208931-40-2 208931-41-3
208931-43-5 208931-44-6
(protective coating of electrophotog. photoreceptor for improving durability and solvent-resistance)
- L49 ANSWER 13 OF 24 HCA COPYRIGHT 2004 ACS on STN
126:171634 Generation and trapping of bis(dialkylamino)silylenes: experimental evidence for bridged structure of diaminosilylene dimers. Sakamoto, Kenkichi; Tsutsui, Shinobu; Sakurai, Hideki; Kira, Mitsuo (Dep. Chem., Tohoku Univ., Sendai, 980-77, Japan). Bulletin of the Chemical Society of Japan, 70(1), 253-260 (English) 1997. CODEN: BCSJA8. ISSN: 0009-2673. Publisher: Nippon Kagakkai.
- AB Redn. of dichlorobis(diisopropylamino)silane and dichlorobis(cis-2,6-dimethylpiperidino)silane by alkali metals gave the corresponding bis(diisopropylamino)silylene and bis(cis-2,6-dimethylpiperidino)silylene, resp. These were successfully trapped by toluene and benzene as well as by hydrosilane, olefin, and acetylene. The 1st evidence for the existence of the bridged-dimer of the diaminosilylenes was the scrambling of the amino-substituents on a Si atom during the simultaneous generation of two different bis(dialkylamino)silylenes in benzene. Diaminosilylenes generated thermally from the other new precursors **designed** here gave no evidence for the bridged dimer, due to the high temp. required for the generation.
- IT **187100-23-8P**
(prepn. of)
- RN 187100-23-8 HCA
- CN Silanediamine, 1-[(3,5-dimethylphenyl)methyl]-N,N,N',N'-tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



CC 29-6 (Organometallic and Organometalloidal Compounds)
 IT 144315-41-3P 187100-01-2P 187100-02-3P 187100-03-4P
 187100-04-5P 187100-05-6P 187100-06-7P 187100-07-8P
 187100-12-5P 187100-13-6P 187100-15-8P 187100-16-9P
 187100-21-6P **187100-23-8P**
 (prepn. of)

L49 ANSWER 14 OF 24 HCA COPYRIGHT 2004 ACS on STN
 123:113976 Reactive incorporation of additives into polymers. Yang,
 Shih Liang Stanley (Allergan, Inc., USA). PCT Int. Appl. WO 9409042
 A1 **19940428**, 36 pp. DESIGNATED STATES: W: AU, JP; RW:
 AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE.
 (English). CODEN: PIXXD2. APPLICATION: WO 1993-US9483 19931006.
 PRIORITY: US 1992-959394 19921013.

GI



AB A reactive additive, esp. an UV light absorber, is introduced into a
 crosslinked and/or solid polymeric material contg. reactive groups,
 and subjected to conditions effective to cause reaction of the
reactive UV light-absorbing component
 with the reactive groups of the solid polymeric material.
 HSiMe₂(OSiMe₂)₃H and 2-(3-tert-butyl-2-hydroxy-5-vinylphenyl)-5-

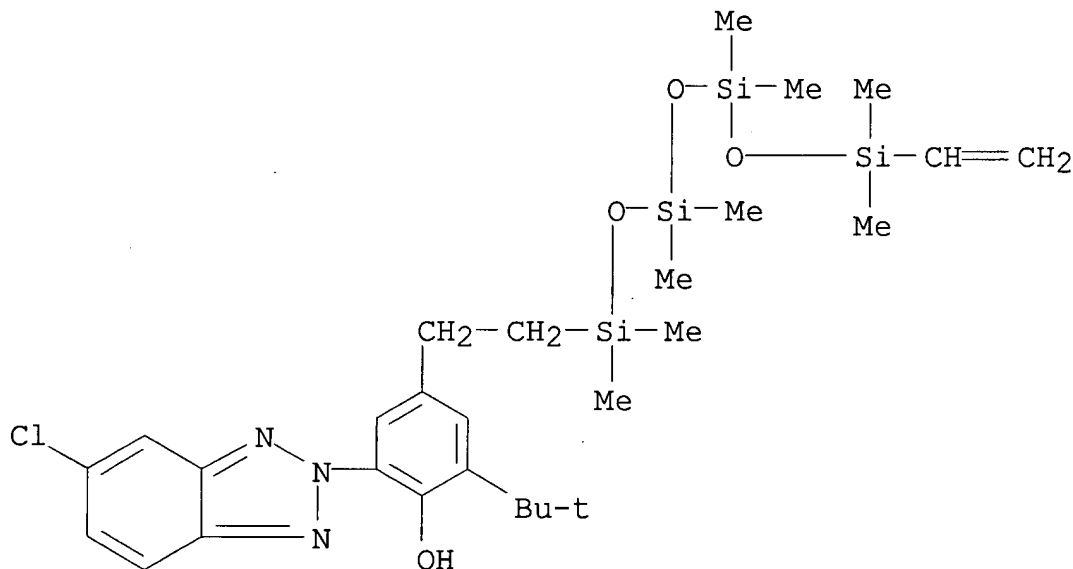
chloro-2H-benzotriazole were stirred at room temp. in toluene in the presence of a Pt complex catalyst for 48 h to give a mixt. of 80% I (R = H, Z = CH₂CH₂) and 20% I (R = H, Z = MeCH), which was treated with C₂H₂ under similar conditions to give a mixt. of 80% I (R = CH:CH₂, Z = CH₂CH₂) and 20% I (R = CH:CH₂, Z = MeCH), which was incorporated in silicone KE 1935 (with residual hydride groups) and formed into a UV-absorbing slab.

IT 146293-19-8P 163444-02-8P

(prepn. of **reactive UV** absorbers for covalent bonding with polymers)

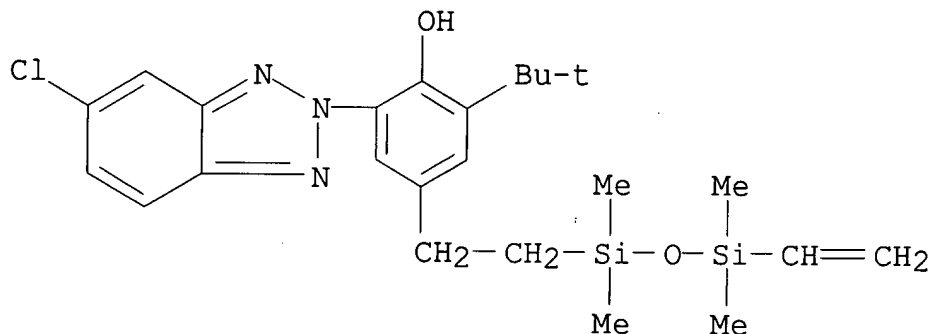
RN 146293-19-8 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(7-ethenyl-1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]- (9CI)
(CA INDEX NAME)



RN 163444-02-8 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(3-ethenyl-1,1,3,3-tetramethyldisiloxanyl)ethyl]- (9CI) (CA INDEX NAME)

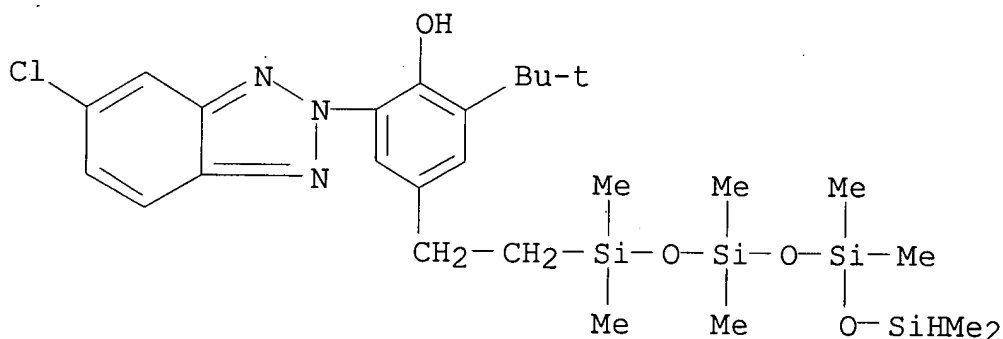


IT 146293-17-6P

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(prepn. of reactive UV absorbers for covalent
bonding with polymers)
```

RN 146293-17-6 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]- (9CI) (CA INDEX NAME)



IC ICM C08F008-00

ICS G02B001-04

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 28, 29, 38

ST silicone reactive UV absorber

IT 146293-19-8P 146293-20-1P 163444-02-8P

163444-03-9P

```
(prepn. of reactive UV absorbers for covalent
bonding with polymers)
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IT 74-86-2, Acetylene, reactions 1000-05-1, 1,1,3,3,5,5,7,7-

Octamethyltetrasiloxane 3277-26-7, 1,1,3,3-Tetramethyldisiloxane
124883-10-9

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(prepn. of reactive UV absorbers for covalent
bonding with polymers)
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IT 146293-17-6P 146293-18-7P

(prepn. of **reactive UV** absorbers for covalent bonding with polymers)

L49 ANSWER 15 OF 24 HCA COPYRIGHT 2004 ACS on STN

123:33151 Synthesis of a silane coupling agent containing a 4-(perfluoroalkyl)phenyl group and its application to the surface modification of glass. Yoshino, Norio; Sasaki, Akihiro; Seto, Tsuyoshi (Department of Industrial Chemistry, Faculty of Engineering, Science University of Tokyo, Kagurazaka, Shinjuku-ku, Tokyo, 162, Japan). Journal of Fluorine Chemistry, 71(1), 21-9 (English) 1995. CODEN: JFLCAR. ISSN: 0022-1139. OTHER SOURCES: CASREACT 123:33151. Publisher: Elsevier.

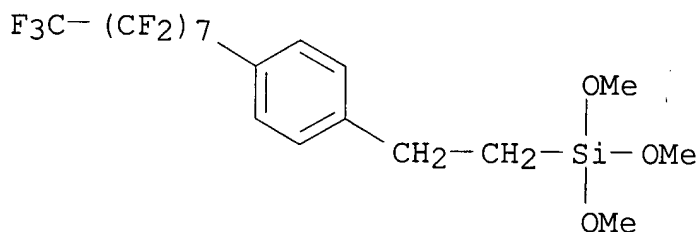
AB Eight silane coupling agents p-RfC6H4CH2CH2SiMe(OMe)2 and p-RfC6H4CH2CH2Si(OMe)3 (Rf = CF3, C4F9, C6F13, C8F17) have been prep'd. by hydrosilylation reaction of dichloro(methyl)silane or trichlorosilane with the corresponding 4-perfluoroalkylstyrene in the presence of hydrogen hexachloroplatinate(IV), followed by reaction with sodium methoxide. These new coupling agents are freely sol. in hydrocarbon solvents. Their application for the surface modification of glass has been attempted. From measurements of the contact angles θ (degree) of water and oleic acid on a modified glass plate surface, it was found that the silane coupling agents show a high degree of surface modification. The oxidn. resistance of the modified glass surface has also been investigated.

IT 157017-89-5P

(synthesis of (perfluoroalkyl)phenethylsilanes and use for surface modification of glass)

RN 157017-89-5 HCA

CN Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl]trimethoxy- (9CI)
(CA INDEX NAME)

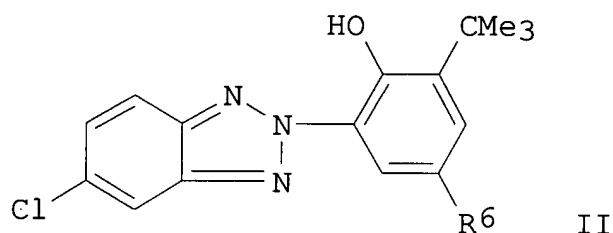
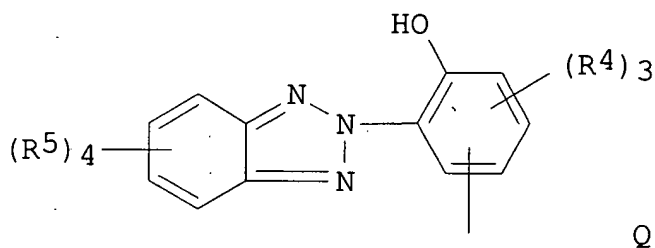


CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 57

IT 157017-89-5P 159241-63-1P 159241-64-2P 159241-65-3P <
159241-66-4P 159241-70-0P 159241-71-1P 159241-72-2P
(synthesis of (perfluoroalkyl)phenethylsilanes and use for surface modification of glass)

L49 ANSWER 16 OF 24 HCA COPYRIGHT 2004 ACS on STN
 122:190085 Silicone elastomer compositions containing UV light-absorbing
 benzotriazole derivs. and their use for lens materials. Yang,
 Shih-Liang S. (Allergan, Inc., USA). U.S. US 5352753 A
19941004, 13 pp. Cont.-in-part of U.S. 5,164,462.
 (English). CODEN: USXXAM. APPLICATION: US 1992-969912 19921102.
 PRIORITY: US 1991-691149 19910425.

GI



AB A title compn., useful (if clear) as corneal contact, an
 intraocular, or corneal intrastromal lens material, comprises
 silicone base **polymer** and **UV light**
 absorbing component present as, or derived from, .gtoreq.1
 silicon-contg. UV light absorbing benzotriazole deriv.
 RZSi(R2)2[OSi(R2)2]aR1 or RZSiR3O[Si(R3)2O-]bOSi(R3)2OSi(R3)2 [I; R
 = benzotriazolophenyl group Q; R1 = H, (un)substituted alkenyl(oxy),
 acryloxyalkyl, etc.; R2 = H, F, (un)substituted alkyl, alkoxy,
 alkenyl, aryl, etc.; R3 = R1, R2; .gtoreq.1 of R3 = R1; R4 = H, OH,
 alkyl, alkoxy, amino, carboxy; R5 = H, hydrocarbyl, OH, amino, halo,
 etc.; a = 1-10,000; b = 0-100]. I are readily sol. in silicone
 (RTV) prepolymer(s) and are prepd. by reacting H-contg. siloxanes,
 preferably tetrahydrotetramethylcyclotetrasiloxane with an OH- or
 vinyl group-functional benzotriazolophenyl deriv., e.g., II (R6 =
 CH:CH2). Thus, a 0.78-mm-thick film of a clear RTV silicone
 elastomer contg. 0.32% mixt. of isomeric benzotriazolophenyl derivs.
 II [R6 = CH2CH2SiMe2(OSiMe2)3R7 and CHMeSiMe2(OSiMe2)3R7] (III; R7 =
 CH:CH2) [prepn. of the precursors III (R7 = H) and their addn.

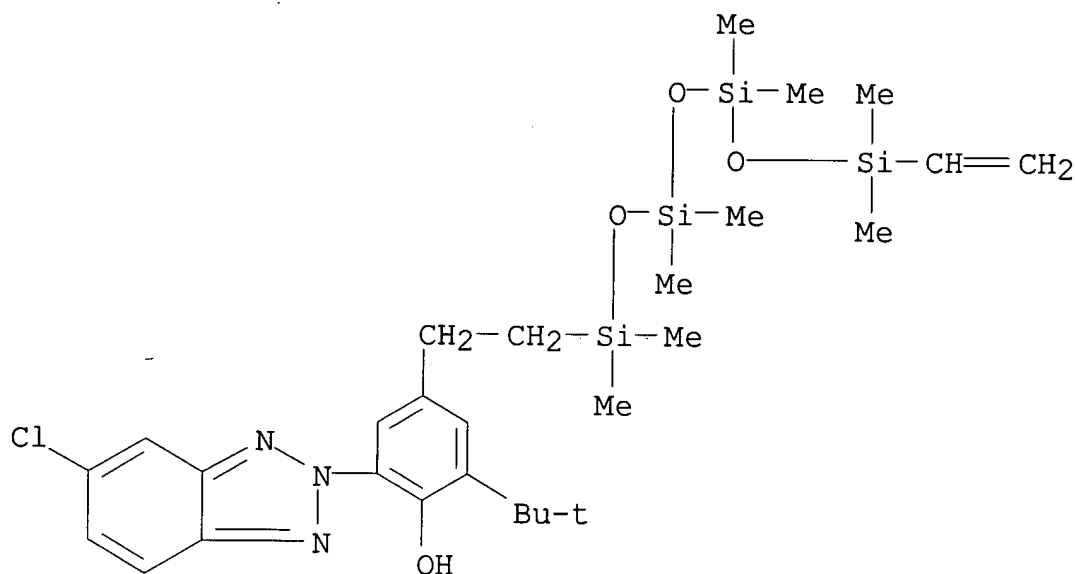
reaction with acetylene given] had UV light transmission 0.5% and 80% at wavelength 386 and 415 nm, resp. After extn. for 8 h in PhMe, the cutoff wavelengths were 382 and 415 nm, resp.

IT 146293-19-8P

(UV absorber; silicone elastomer compns. contg. UV light-absorbing benzotriazole derivs. and their use for lens materials)

RN 146293-19-8 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(7-ethenyl-1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]- (9CI)
(CA INDEX NAME)

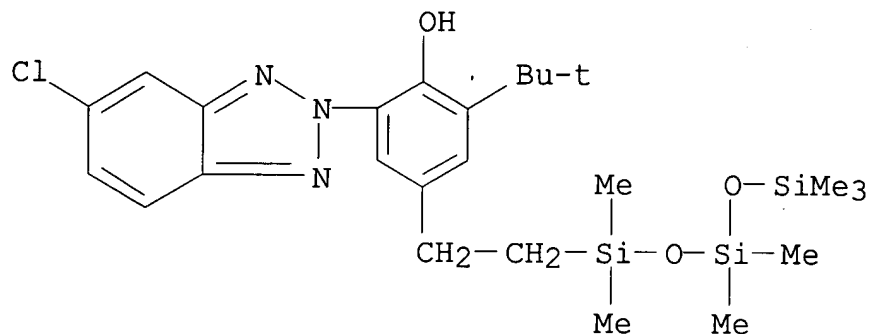


IT 146293-22-3P

(silicone elastomer compns. contg. UV light-absorbing benzotriazole derivs. and their use for lens materials)

RN 146293-22-3 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(heptamethyltrisiloxanyl)ethyl]- (9CI) (CA INDEX NAME)

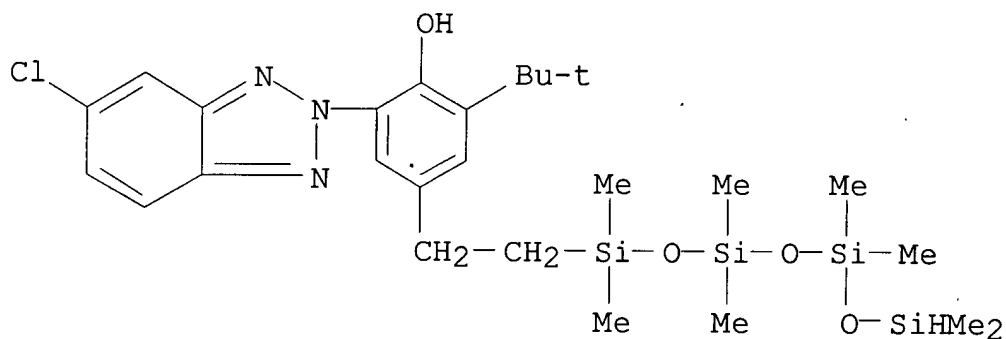


IT 146293-17-6P

(silicone elastomer compns. contg. UV light-absorbing
benzotriazole derivs. and their use for lens materials)

RN 146293-17-6 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]- (9CI) (CA INDEX NAME)

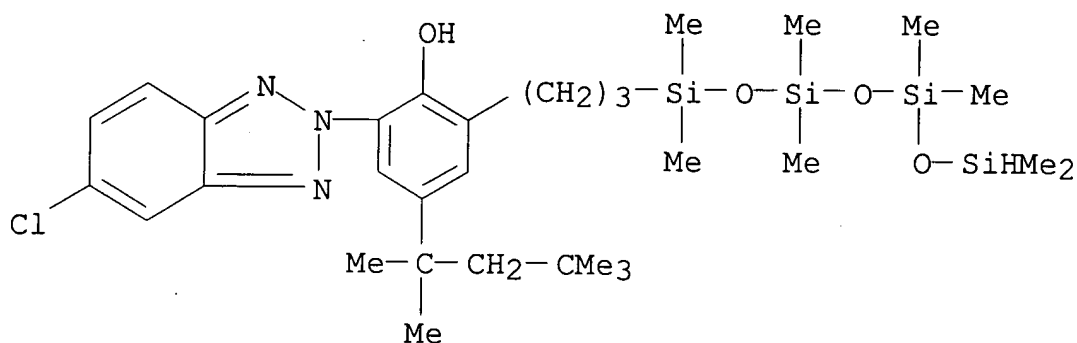


IT 156637-72-8P

(silicone elastomer compns. contg. UV light-absorbing
benzotriazole derivs. and their use for lens materials)

RN 156637-72-8 HCA

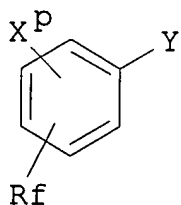
CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-[3-(1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)propyl]-4-(1,1,3,3-tetramethylbutyl)- (9CI) (CA INDEX NAME)



- IC ICM C07F007-10
 NCL 528027000
 CC 39-8 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 63
 IT **146293-19-8P** 146293-20-1P
 (UV absorber; silicone elastomer compns. contg. UV
 light-absorbing benzotriazole derivs. and their use for lens
 materials)
 IT 146293-21-2P **146293-22-3P**
 (silicone elastomer compns. contg. UV light-absorbing
 benzotriazole derivs. and their use for lens materials)
 IT **146293-17-6P** 146293-18-7P
 (silicone elastomer compns. contg. UV light-absorbing
 benzotriazole derivs. and their use for lens materials)
 IT **156637-72-8P** 156637-73-9P
 (silicone elastomer compns. contg. UV light-absorbing
 benzotriazole derivs. and their use for lens materials)

L49 ANSWER 17 OF 24 HCA COPYRIGHT 2004 ACS on STN
 122:132733 Preparation of fluorinated aromatic compound. Yoshino, Norio
 (Daikin Industries, Ltd., Japan). PCT Int. Appl. WO 9420442 A1
19940915, 24 pp. DESIGNATED STATES: W: US; RW: AT, BE, CH,
 DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese).
 CODEN: PIXXD2. APPLICATION: WO 1994-JP374 19940309. PRIORITY: JP
 1993-78704 19930312.

GI



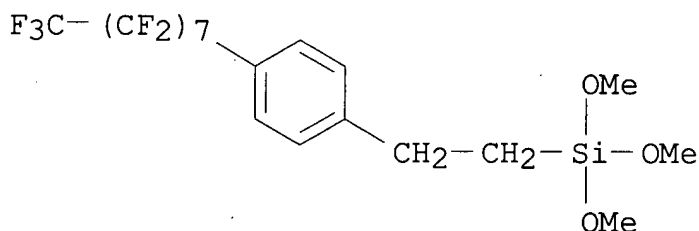
I

AB A fluorinated arom. compd. represented by formula [I; X = H, F, Cl, C1-20 alkyl or alkoxy; p = 1-4; Y = COMe, CO₂Et, CHMeOH, CMe₂OH, -CH:CH₂, CMe:CH₂ or CAB(CH₂)_mSi(Me)_nZ_{13-n} (wherein A, B = H, Me; Z = Cl, OMe, OEt; m, n = 0, 1); R_f = C1-20 fluoroalkyl or C1-100 fluoropolyether group], utilizable for prepg. a magnetic fluid having a wide heat-resistant temp. range and a high water resistance, are prepd. Magnetic particles are surface-modified by a silane coupling agent I [Y = CAB(CH₂)_mSi(Me)_nZ_{13-n}; (wherein A, B, m, n = same as above; Z₁ = OMe, OEt)]. Thus, 24.4 g MeI was added dropwise to a stirred mixt. of 3.71 g Mg and 30 mL Et₂O and the resulting mixt. was refluxed for 30 min and cooled to room temp. To the reaction mixt., a soln. of 25.1 g 4-trifluoromethylbenzaldehyde in Et₂O was slowly added dropwise followed by refluxing the resulting mixt. for 2 h to give, after workup, 1-(1-hydroxyethyl)-4-trifluoromethylbenzene, to which (27.0 g) were added 7 g KHSO₃ and 0.01 g 4-tert-butylcatechol (polymn. inhibitor) and the resulting mixt. was distd. at 150-180.degree.. The entire distillate was saved and extd. with Et₂O and the Et₂O ext. was dried over Na₂SO₄ and after adding 4-tert-butylcatechol distd. under reduced pressure to give 76.5% 4-trifluoromethylstyrene (II). II was reacted with HSiMeCl₂ in the presence of H₂PtCl₆ at 100.degree. for 50 h to give a 87:13 mixt. of p-CF₃C₆H₄CH₂CH₂SiMeCl₂ and p-CF₃C₆H₄CH₂MeSiMeCl₂ in 89.0% yield which was added dropwise to a refluxing soln. of NaOMe in MeOH followed by refluxing the resulting mixt. for 1 h to give a mixt. of p-CF₃C₆H₄CH₂CH₂SiMe(OMe)₂ and p-CF₃C₆H₄CH₂MeSiMe(OMe)₂ in 65.0% yield.

IT 157017-89-5P
(prepn. of [(perfluoroalkyl)phenyl]alkyl]methoxysilanes as silane coupling agents for magnetic fluids)

RN 157017-89-5 HCA

CN Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl]trimethoxy- (9CI)
(CA INDEX NAME)



IC ICM C07C022-08

ICS C07C025-24; C07C033-46; C07C043-225; C07C043-23; C07C049-80;
C07C049-84; C07C069-76; C07F007-12; C07F007-18; H01F001-34

CC 25-3 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 29, 77

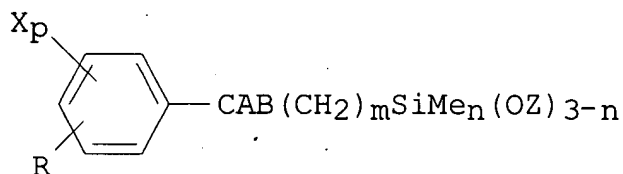
IT **157017-89-5P** 159241-63-1P 159241-64-2P 159241-65-3P
 159241-66-4P 159241-67-5P 159241-68-6P 159241-69-7P
 159241-70-0P 159241-71-1P 159241-72-2P 159241-73-3P
 159241-74-4P 159241-75-5P 159241-76-6P 159241-77-7P
 159241-78-8P 159241-79-9P 159241-80-2P 159241-81-3P
 159241-82-4P 159241-83-5P 159241-84-6P 159241-85-7P
 159241-86-8P 159241-87-9P 159241-88-0P 159241-89-1P

(prepn. of [[(perfluoroalkyl)phenyl]alkyl]methoxysilanes as
 silane coupling agents for magnetic fluids)

L49 ANSWER 18 OF 24 HCA COPYRIGHT 2004 ACS on STN

122:121547 Magnetic particles surface-treated with silane coupling
 agent, their manufacture, and their magnetic fluid. Yoshino, Norio
 (Daikin Ind Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06267731 A2.
19940922 Heisei, 10 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1993-78705 19930312.

GI



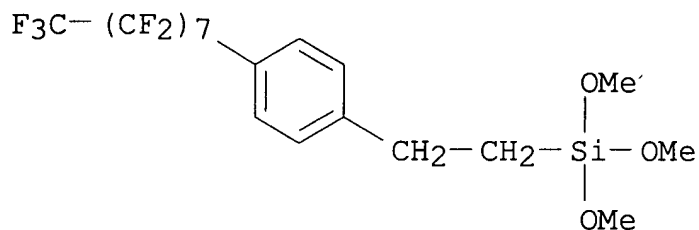
AB The magnetic particles are manufd. by treating the surface with a
 surfactant and then contacting the surface with a silane coupling
 agent to substitute the coupling agent for the adsorbed surfactant.
 The magnetic particles are surface-treated with a F-contg. arom.
 silane coupling agent I (X = H, F, Cl, C1-20 alkyl, C1-20 alkoxy; p
 = 1-4; A, B = H, Me; Z = Me, Et; m, n = 0, 1; R = C1-20 fluoroalkyl,
 C1-100 fluoropolyether). The magnetic fluid consists of a
 dispersion contg. the magnetic particles and a F-contg. oil. The
 magnetic fluid showed good heat and water resistance.

IT **157017-89-5**

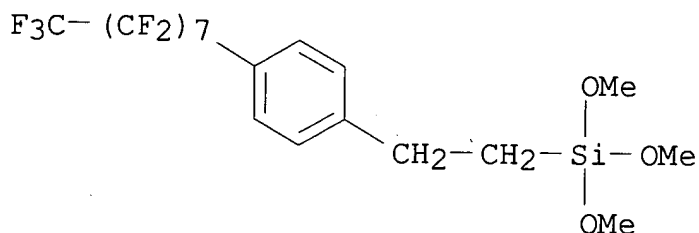
(magnetic fluid contg. magnetic particles surface-treated with
 fluorine-contg. arom. silane coupling agent)

RN 157017-89-5 HCA

CN Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl]trimethoxy- (9CI)
 (CA INDEX NAME)



IC ICM H01F001-34
ICS C10M169-04
ICI C10M169-04, C10M105-52, C10M125-10, C10M139-04; C10N010-02,
C10N010-04, C10N010-06, C10N010-16, C10N020-06, C10N030-00,
C10N030-08, C10N040-14
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 25, 38
IT 1317-61-9, Iron oxide (Fe₃O₄), processes 135131-80-5 135179-25-8
157017-89-5 159241-63-1 159241-64-2 159241-65-3
159241-66-4 159241-67-5 159241-68-6 159241-69-7 159241-70-0
159241-71-1 159241-72-2 159241-73-3 159241-74-4 159241-75-5
160589-97-9
(magnetic fluid contg. magnetic particles surface-treated with
fluorine-contg. arom. silane coupling agent)
L49 ANSWER 19 OF 24 HCA COPYRIGHT 2004 ACS on STN
121:123632 Preparation of fluoro-oil based magnetic fluid by using
silane coupling agents having fluorocarbon chain. Yoshino, Norio;
Sasaki, Akihiro; Seto, Tsuyoshi; Kondo, Yukishige; Abe, Masahiko
(Fac. Eng., Sci. Univ. Tokyo, Tokyo, 162, Japan). Zairyo Gijutsu,
12(2), 47-50 (Japanese) 1994. CODEN: ZAGIET. ISSN:
0289-7709.
AB Toluene-based magnetic fluid having Fe₃O₄ dispersed with oleic acid
were treated with fluorine-contg. silanes, e.g. C₈F₁₇-
C₆H₄CH₂CH₂Si(OMe)₃, and after washing oleic acid with MeOH Fe₃O₄
were dispersed in PCTFE or other fluorine-contg. cyclic siloxanes
and the 1090 cm⁻¹ .nu. of Si-O-C was diminished and the 1030 cm⁻¹
.nu. of Si-O-Fe formed.
IT 157017-89-5
(ferrofluids from magnetite-type iron oxide dispersed in toluene
mixt. contg.)
RN 157017-89-5 HCA
CN Silane, [2-[4-(heptadecafluorooctyl)phenyl]ethyl]trimethoxy- (9CI)
(CA INDEX NAME)



CC 77-8 (Magnetic Phenomena)

IT 9002-83-9, PCTFE **157017-89-5**

(ferrofluids from magnetite-type iron oxide dispersed in toluene mixt. contg.)

L49 ANSWER 20 OF 24 HCA COPYRIGHT 2004 ACS on STN

121:91911 Ultraviolet light-absorbing compounds, silicone compositions and methods for making same. Yang, Shih Liang Stanley (Allergan, Inc., USA). PCT Int. Appl. WO 9410588 A1 **19940511**, 45 pp.

DESIGNATED STATES: W: AU, JP; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.

APPLICATION: WO 1993-US10586 19931102. PRIORITY: US 1992-969912 19921102.

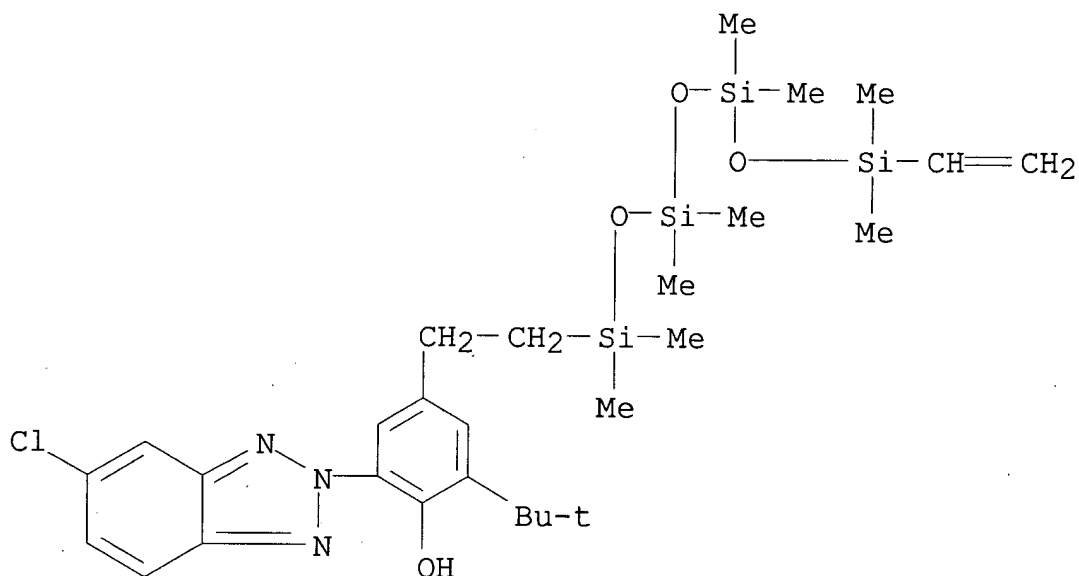
AB An UV light-absorbing silicone compn. is disclosed which comprises silicone base polymer and silicone-contg. UV light absorbing benzotriazole derivs. Also disclosed are methods for producing such silicone compns. and derivs. Such silicone compns., which are preferably optically clear, are useful as lens materials. For example, a mixt. of 2-[3'-tert-butyl-2'-hydroxy-5'-[2''-(7'''-vinyl octamethyl tetrasiloxane)ethyl]phenyl]-5-chloro-2H-benzotriazole and 2-[3'-tert-butyl-2'-hydroxy-5'-[1''-(7'''-vinyl octamethyl tetrasiloxane)ethyl]phenyl]-5-chloro-2H-benzotriazole was polymd. and a film obtained from the **polymer** showed good UV light absorbing properties.

IT **146293-19-8P 156637-70-6P 156637-72-8P 156637-74-0P**

(prepn. and reaction of, for manuf. of UV light-absorbing lenses)

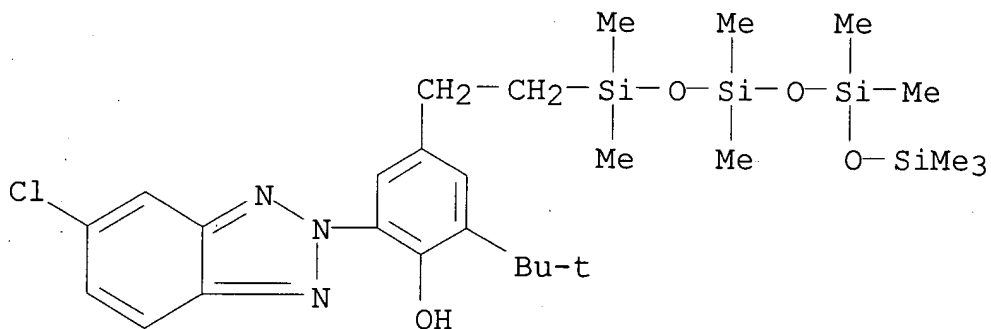
RN 146293-19-8 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(7-ethenyl-1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]- (9CI)
(CA INDEX NAME)



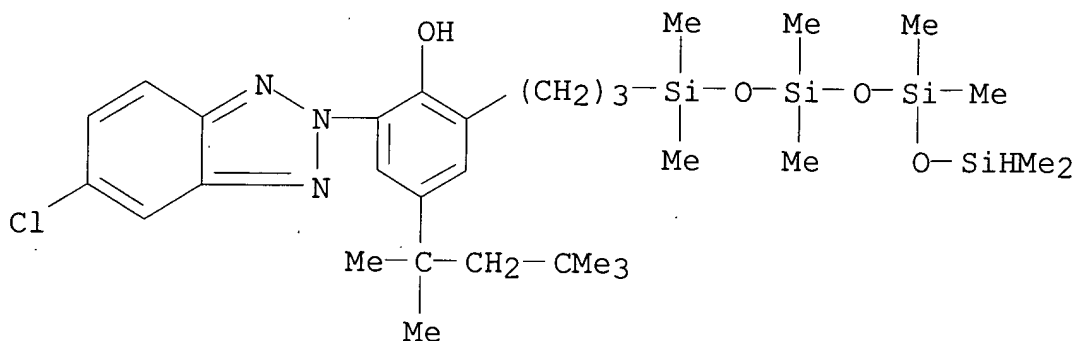
RN 156637-70-6 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(nonamethyltetrasiloxanyl)ethyl]- (9CI) (CA INDEX NAME)



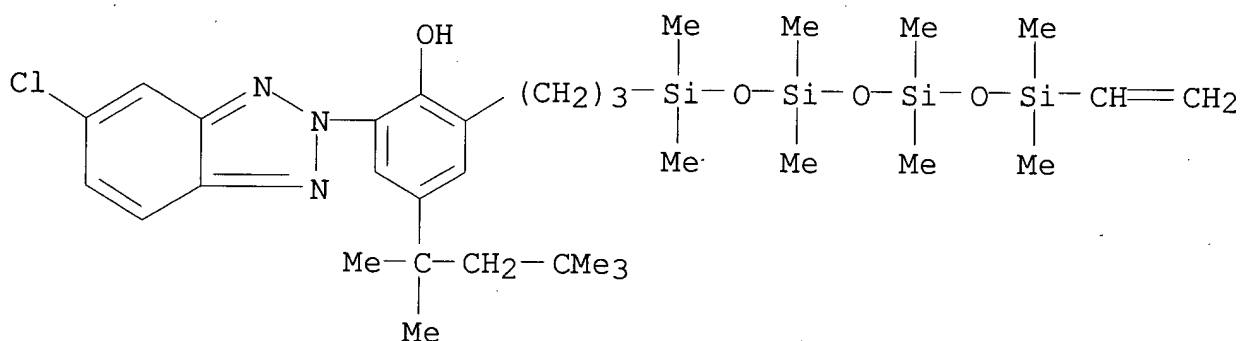
RN 156637-72-8 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-[3-(1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)propyl]-4-(1,1,3,3-tetramethylbutyl)- (9CI) (CA INDEX NAME)



RN 156637-74-0 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-[3-(7-ethenyl-1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)propyl]-4-(1,1,3,3-tetramethylbutyl)- (9CI) (CA INDEX NAME)

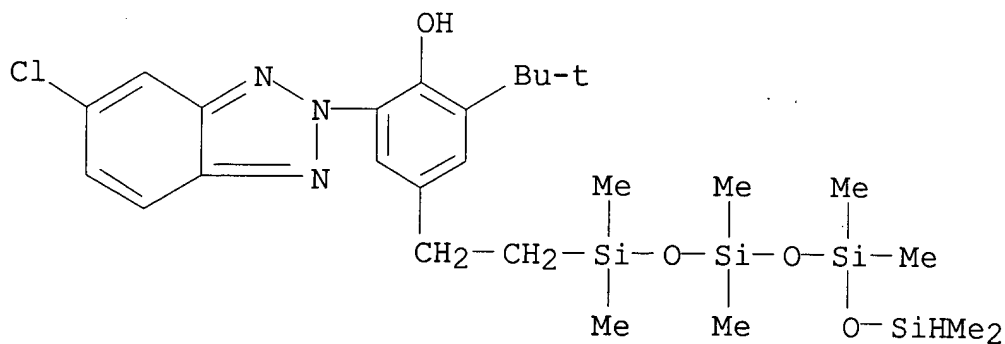


IT 146293-17-6P

(prepn. and reaction of, with acetylene)

RN 146293-17-6 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]- (9CI) (CA INDEX NAME)



IT 156637-85-3P

(prepn. of, UV light-absorbing lens manuf. with)

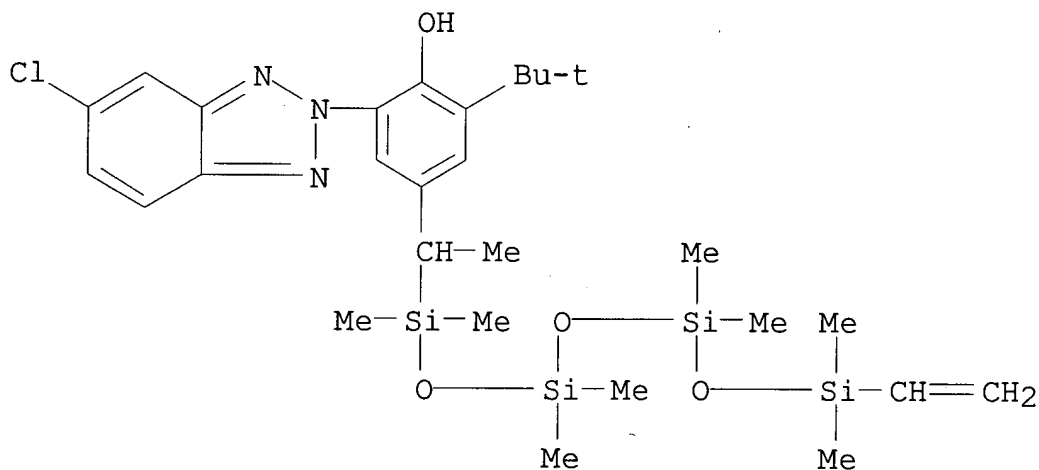
RN 156637-85-3 HCA

CN Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[1-(7-ethenyl-1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]-, polymer with 2-(5-chloro-2H-benzotriazol-2-yl)-6-(1,1-dimethylethyl)-4-[2-(7-ethenyl-1,1,3,3,5,5,7,7-octamethyltetrasiloxanyl)ethyl]phenol (9CI)
(CA INDEX NAME)

CM 1

CRN 146293-20-1

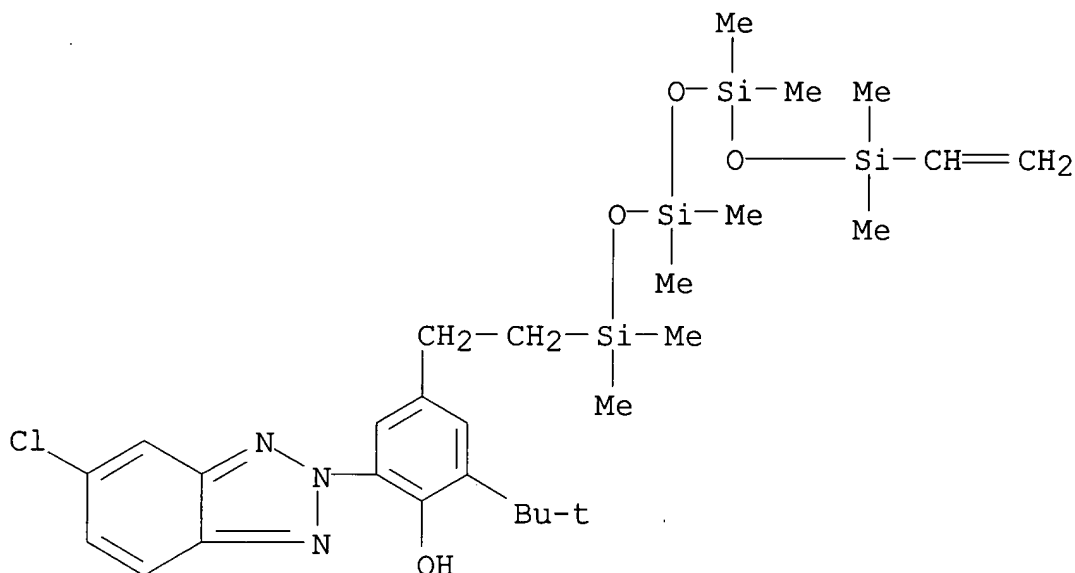
CMF C28 H46 Cl N3 O4 Si4



CM 2

CRN 146293-19-8

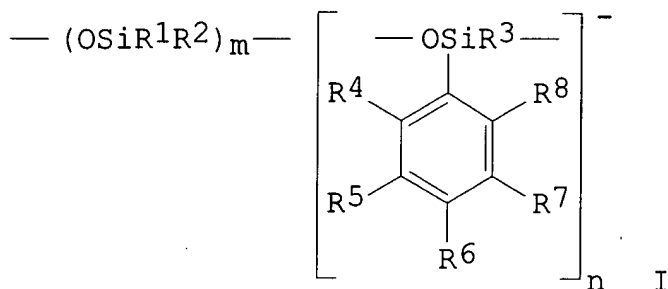
CMF C28 H46 Cl N3 O4 Si4



IC ICM G02B001-04
 ICS C08K005-54; C08L083-04
 CC 63-7 (Pharmaceuticals)
 IT **146293-19-8P** 146293-20-1P **156637-70-6P**
 156637-71-7P **156637-72-8P** 156637-73-9P
156637-74-0P 156637-75-1P 156637-76-2P 156637-77-3P
 156637-78-4P 156637-79-5P 156637-80-8P 156637-81-9P
 156637-82-0P 156637-83-1P 156637-84-2P
 (prepn. and reaction of, for manuf. of UV light-absorbing lenses)
 IT **146293-17-6P** 146293-18-7P
 (prepn. and reaction of, with acetylene)
 IT **156637-85-3P**
 (prepn. of, UV light-absorbing lens manuf. with)

L49 ANSWER 21 OF 24 HCA COPYRIGHT 2004 ACS on STN
 111:67965 Negative-working lithographic resists. Gokochi, Toru; Tada,
 Tsukasa; Watanabe, Haruaki (Toshiba Corp., Japan). Jpn. Kokai
 Tokkyo Koho JP 01054443 A2 **19890301** Heisei, 5 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-209203 19870825.

GI



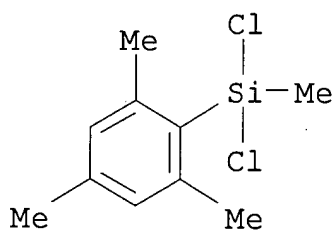
AB Polysiloxanes I [R¹-3 = Me, Ph; R⁴-5 = H, Me (.gtoreq.1); n.gtoreq.1; .gtoreq.0] are contained in the title resists. These resists are highly resistant to O plasma, and have high sensitivity and resolu. Thus, 10% soln. of poly(methylmesitylsiloxane) obtained by hydrolysis of methylmesityldichlorosilane, in PhMe, was mixed with 2,6-bis(4'-azido benzal)-4-methylcyclohexanone (10% of polymer wt.) and applied on a Si wafer to form a 0.2-.mu.m **layer**, which was **patterned** with an electron beam and developed with 3:1 (vol.) MEK-isopropanol to obtain a pattern with 0.25-.mu.m lines, with sensitivity 17 .mu.C/cm². This resist showed resistance to O plasma etching 47 times better than that of a com. resist HPR204.

IT 120217-95-0

(hydrolytic polymn. of and with diphenyldichlorosilane, neg.-working resists contg.)

RN 120217-95-0 HCA

CN Silane, dichloromethyl(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



IC ICM G03C001-71

ICS G03C001-71

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

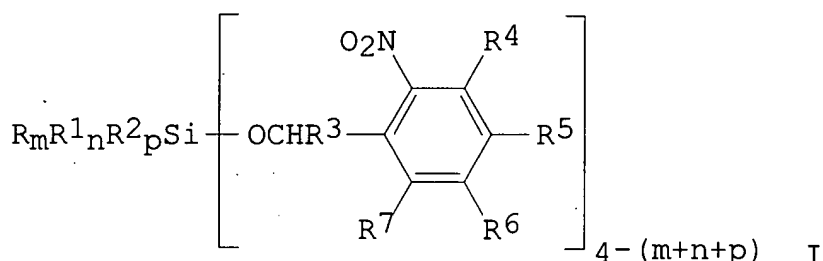
IT 120217-95-0

(hydrolytic polymn. of and with diphenyldichlorosilane,

neg.-working resists contg.)

L49 ANSWER 22 OF 24 HCA COPYRIGHT 2004 ACS on STN
 104:120028 Positive-working photoresist materials. Isori, Kunihiro;
 Hayase, Shuji (Toshiba Corp., Japan). Jpn. Kokai Tokkyo Koho JP
 60198538 A2 19851008 Showa, 6 pp. (Japanese). CODEN:
 JKXXAF. APPLICATION: JP 1984-53502 19840322.

GI



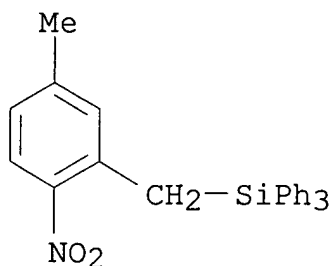
AB The title photoresist materials contain as a polycondensation product having phenol nucleus in its mol. and an o-nitrobenzyloxysilane deriv. of the formula I (R, R₁, R₂ = H, halo, vinyl, allyl, C₁-10 alkyl which may be substituted, C₁-10 alkoxy, aryl which may be substituted, aryloxy, siloxy; R₃ = H, C₁-10 alkyl which may be substituted, Ph which may be substituted; R₄, R₅, R₆, R₇ = H, NO₂, CN, OH, SH, halo, acetyl, allyl, C₁-5 alkyl, C₁-5 alkoxy, aryl which may be substituted, aryloxy; 3 .gtoreq. m,n,p .gtoreq. 0; 3 .gtoreq. m+n+p .gtoreq. 1). The photoresist materials are esp. useful for far UV exposure systems and exhibit high resolu. and anti-dry etching properties. Thus, a Si wafer was coated with a soln. prepd. by dissolving an alk.-sol. cresol-novolak resin and I (R, R₁, R₂ = Ph; R₃, R₄, R₅, R₆, R₇ = H; m, n, p = 1) in a mixt. of Et Cellosolve acetate, xylene, AcOBu, and DMF and dried to give a photoresist coating. The photoresist coating was pattern-wise exposed to far UV and developed with a Na₃PO₄ soln. to obtain resist patterns showing high sensitivity and resolu. and good dry etching resistance.

IT 100809-25-4

(pos.-working UV-sensitive photoresist compns. contg. phenolic resins and)

RN 100809-25-4 HCA

CN Silane, [(5-methyl-2-nitrophenyl)methyl]triphenyl- (9CI) (CA INDEX NAME)



IC ICM G03C001-72
ICS G03C005-08; G03F007-10

ICA H01L021-30

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 88216-15-3 100809-20-9 100809-24-3 **100809-25-4**
(pos.-working UV-sensitive photoresist compns. contg. phenolic resins and)

L49 ANSWER 23 OF 24 HCA COPYRIGHT 2004 ACS on STN

99:106255 Solvent-soluble organopolysilsesquioxanes, and compositions and semiconductor devices using them. Nozue, Ikuo; Tomomitsu, Osahiko; Yumoto, Yoshiji; Matsumura, Yoshio (Japan Synthetic Rubber Co., Ltd., Japan). Eur. Pat. Appl. EP 76656 A2 **19830413**, 50 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1982-305223 19820930. PRIORITY: JP 1981-157885 19811003; JP 1981-169178 19811022; JP 1981-190667 19811130.

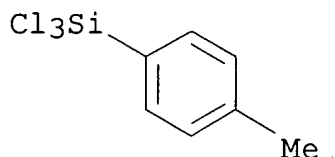
AB The title polymers having lower alkyl groups and alkenyl groups as side chains and having excellent heat-resistant are prepd. by adding water to a soln. of a lower-alkyltrihalosilane, an alkenyltrihalosilane, and, if necessary, an aryltrihalosilane, and/or a trihalosilane in an org. solvent, and heating the resulting mixt. These compns. are used for forming a **patterned** surface-protecting **layer** or insulating layer for a semiconductor device. Thus, 40 mL water was dropped slowly into a mixt. of iso-BuCOMe 170, Et₃N 14, MeSiCl₃ 18, PhSiCl₃ 1.3, and CH₂:CHSiCl₃ 5.2 mL and heated at 100.degree. for 4 h. The filtrate was evapd. to dryness to give 14 g of organopolysilsesquioxane (I) having a mol. wt. of 50,000 and a thermal decompn. temp. in N of 610.degree.. A mixt. of 20% soln. of 5 g I dissolved in BuOAc and 0.15 g 2,6-bis(4'-azidobenzal)-4-methylcyclohexanone [5284-79-7] was applied to a silicone wafer and heated at 80.degree. for 15 min to form a silicone thin film. The coating film was heated in N and no wt. loss was obsd. up to 600.degree. and the percentage of residual wt. after further heating the coating film to 800.degree. to calcine was 95%.

IT 701-35-9

(hydrolytic copolymn. of, in prepn. of heat-resistant silsesquioxanes, for coatings)

RN 701-35-9 HCA

CN Silane, trichloro(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC C08G077-20; C08L083-04; H01L021-312; C08K005-00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 42

IT 75-79-6 75-94-5 107-37-9 **701-35-9** 1185-55-3

2768-02-7 2996-92-1 7521-80-4 10025-78-2

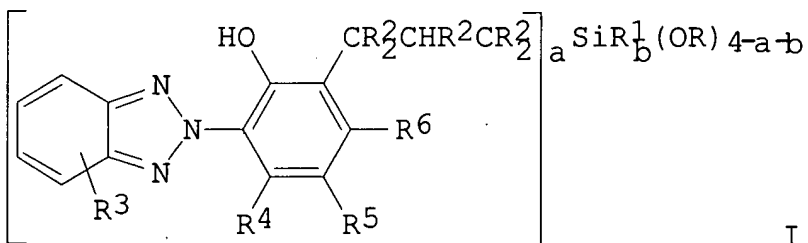
(hydrolytic copolymn. of, in prepn. of heat-resistant silsesquioxanes, for coatings)

L49 ANSWER 24 OF 24 HCA COPYRIGHT 2004 ACS on STN

96:218021 Silylbenzotriazole and coatings with compositions containing it. Ching, Ta Yen (General Electric Co., USA). Fr. Demande FR 2483423 A1 **19811204**, 12 pp. (French). CODEN: FRXXBL.

APPLICATION: FR 1981-10607 19810527. PRIORITY: US 1980-154625 19800530.

GI



I

AB Silylbenzotriazoles I (R = C1-8 alkyl; R1 = C1-8 alkyl, C6-12 aryl; R2 = H, R; R3 = H, C1-8 alkyl, C1-8 alkoxy, carbalkoxy, OH, amino, halo; R4, R5, R6 = H, C1-8 alkyl or alkoxy, halo; a = 1, 2, 3; b = 0, 1, 2; a+b = 1, 2, 3) were prepd. For example, 2-(allyloxy)-5-methylphenylbenzotriazole, prepd. from 2-hydroxy-5-methylphenylbenzyltriazole and allyl bromide, was rearranged upon heating at 200.degree. to 3-allyl-2-hydroxy-5-

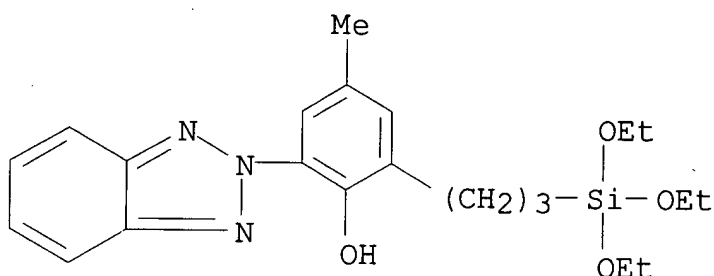
methylphenylbenzyltriazole. The latter underwent catalytic reaction with triethoxysilane to give 2-hydroxy-3-(3-triethoxysilylpropyl)-5-methylphenylbenzotriazole (II). II, in conjunction with hydrolysis products of methyltriacetoxysilane and methyltrimethoxysilane, protected the polycarbonate Lexan from UV degrdn.

IT 81503-69-7P

(prepn. and protection of polycarbonates from UV degrdn. by)

RN 81503-69-7 HCA

CN Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-6-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



IC C07F007-18; C09D003-82; C09D005-32

CC 29-6 (Organometallic and Organometalloidal Compounds)

IT 24936-68-3, **reactions**

(UV degrdn. of, protection by silylbenzotriazole)

IT 81503-69-7P

(prepn. and protection of polycarbonates from UV degrdn. by)

=> d 150 1-14 cbib abs hitstr hitind

L50 ANSWER 1 OF 14 HCA COPYRIGHT 2004 ACS on STN

130:252841 Polysilanes for **resist** etching **mask** and

formation of **resist pattern**. Nakano, Yoshihiko;

Kani, Rikako; Hayase, Shuji; Sato, Yasuhiko; Miyoshi, Yasuo;

Gokawachi, Toru; Yoshikawa, Sawako; Matsuyama, Hideto; Ohnishi,

Kiyonobu; Hiraoka, Toshiro; Narita, Masaki (Toshiba Corp., Japan).

Jpn. Kokai Tokkyo Koho JP 11060735 A2 19990305 Heisei, 184

pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-336655

19971121. PRIORITY: JP 1996-328587 19961209; JP 1997-624 19970107;

JP 1997-155553 19970612.

AB Various polysilanes are synthesized and tested for for etching rate under various conditions. The polysilanes are used as etching **masks** for the formation of **resist pattern** on a substrate, such as silicon wafer. The process for forming a **resist pattern** is also claimed.

IT 221378-97-8

(polysilanes for **resist** etching **mask** for

formation of **resist pattern**)

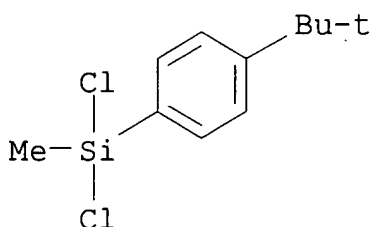
RN 221378-97-8 HCA

CN Silane, dichloro[4-(1,1-dimethylethyl)phenyl]methyl-, polymer with dichlorodiphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 17983-53-8

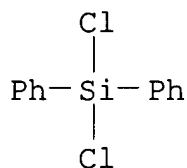
CMF C11 H16 Cl2 Si



CM 2

CRN 80-10-4

CMF C12 H10 Cl2 Si



IC ICM C08G077-60

ICS G03F007-075

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74, 76

ST polysilane etching **mask resist pattern** formation

IT Epoxy resins, reactions

Phenolic resins, reactions

Polysiloxanes, reactions

(crosslinking agent; polysilanes for **resist** etching **mask** for formation of **resist pattern**)

IT Etching

Etching **masks**

Resists

Semiconductor devices

(polysilanes for **resist** etching **mask** for

- formation of **resist pattern**)
- IT Polysilanes
(polysilanes for **resist etching mask** for formation of **resist pattern**)
- IT Dendritic polymers
(polysilanes; polysilanes for **resist etching mask** for formation of **resist pattern**)
- IT 71-43-2D, Benzene, polymethylenephenylenes, hydroxy derivs., epoxy-contg., reactions 91-20-3D, Naphthalene, polymethylenenaphthalenes, hydroxy derivs., amino derivs., epoxy derivs., reactions 120-12-7D, Anthracene, polymethyleneanthracenes, hydroxy derivs., amino derivs., epoxy derivs., reactions 694-59-7, Pyridine N-oxide 919-30-2, .gamma.-Aminopropyltriethoxysilane 2386-87-0 9003-35-4, Formaldehyde-phenol copolymer 9005-12-3, Methylphenylsilanediol homopolymer, sru 9016-00-6, Dimethylsilanediol homopolymer, sru 9016-83-5, Cresol-formaldehyde copolymer 18042-57-4 25087-26-7, Polymethacrylic acid 29226-39-9, Diphenylsilanediol homopolymer 31230-04-3, Methylphenylsilanediol homopolymer 31900-57-9, Dimethylsilanediol homopolymer 32129-24-1, Diphenylsilanediol homopolymer, sru 57912-91-1 164652-59-9 221379-58-4 221379-59-5 221379-60-8 221379-61-9 221379-62-0 221379-63-1 221548-16-9 221548-17-0
(crosslinking agent; polysilanes for **resist etching mask** for formation of **resist pattern**)
- IT 10026-04-7, Silicon tetrachloride
(for prepn. of silicon nanocluster; prepn. of polysilanes for **resist etching mask** for formation of **resist pattern**)
- IT 75-77-4DP, Trimethylchlorosilane, reaction products with polysilanes 98387-81-6DP, Dichlorodiphenylsilane-dichloromethylphenylsilane copolymer, reaction products with trimethylchlorosilane 188610-82-4P 209416-72-8P 212334-44-6DP, reaction products with trimethylchlorosilane 221378-62-7DP, reaction products with trimethylchlorosilane 221378-63-8DP, reaction products with trimethylchlorosilane 221378-65-0DP, reaction products with trimethylchlorosilane 221378-70-7P 221378-72-9P 221378-74-1P 221378-75-2P 221378-76-3DP, reaction products with trimethylchlorosilane 221378-77-4P 221378-78-5DP, reaction products with trimethylchlorosilane 221378-79-6P 221378-80-9DP, reaction products with trimethylchlorosilane 221379-00-6DP, Dichlorodiphenylsilane-1,4-bis(chloromethylphenylsilyl)benzene copolymer, reaction products with trimethylchlorosilane 221379-12-0P
(polysilanes for **resist etching mask** for formation of **resist pattern**)
- IT 1217-45-4, 9,10-Anthracenedicarbonitrile 1518-16-7, TCNQ
(polysilanes for **resist etching mask** for

formation of **resist pattern**)

IT 935-14-8D, 1,4-Diethynylbenzene, polymers with polysilanes
 1631-84-1D, Dichlorophenylsilane, polymers with diethynylbenzene
 derivs. 29468-75-5 31324-77-3, Dichloromethylphenylsilane
 homopolymer 41087-22-3, Phenyltrichlorosilane homopolymer
 76188-55-1, Dichloromethylphenylsilane homopolymer, sru
 95584-36-4, Dichlorophenylsilane homopolymer, sru 98387-81-6
 99936-07-9, Dichlorophenylsilane homopolymer 99936-08-0,
 Dichloromethylsilane homopolymer 99936-09-1 105064-43-5,
 Poly(methylsilylene) 113219-09-3, Cyclohexyltrichlorosilane
 homopolymer 127028-87-9 135266-27-2 143558-05-8,
 Dichlorodiphenylsilane-dichlorophenylsilane copolymer 162411-15-6
 173341-63-4 186906-67-2, Poly(2-naphthalenylsilylene)
 192663-98-2 192726-24-2, Poly([(trifluoromethyl)phenyl]silylene)
 212334-27-5, Dichloro-1-naphthylsilane homopolymer 212334-29-7,
 Poly(1-naphthalenylsilylene) 212334-42-4, Dichlorodiphenylsilane-
 1,2-bis(dichlorophenylsilyl)ethane copolymer 213206-64-5
 221378-61-6 221378-64-9 221378-66-1 221378-67-2 221378-68-3
 221378-81-0 221378-82-1 221378-83-2 221378-84-3 221378-85-4
 221378-86-5 221378-87-6 221378-88-7 221378-89-8 221378-90-1
 221378-91-2 221378-92-3 221378-93-4 221378-94-5 221378-95-6,
 Dichlorodiphenylsilane-dichloroethylphenylsilane copolymer
 221378-96-7 **221378-97-8** 221378-98-9 221378-99-0
 221379-00-6 221379-02-8 221379-03-9 221379-04-0 221379-06-2
 221379-07-3 221379-08-4 221379-09-5 221379-10-8 221379-11-9
 221379-13-1 221379-14-2 221379-15-3 221379-16-4 221379-17-5
 221379-18-6 221379-19-7 221379-20-0 221379-21-1 221379-22-2
 221379-23-3 221379-25-5 221379-26-6 221379-27-7 221379-28-8
 221379-29-9 221379-30-2 221379-31-3 221379-32-4 221379-35-7
 221379-38-0 221379-40-4 221379-43-7 221379-45-9 221379-47-1
 221379-49-3 221379-50-6 221379-51-7 221379-52-8 221379-54-0
 221379-56-2 221379-65-3 221379-66-4, Poly(2-anthracenylsilylene)
 221379-67-5 221379-68-6 221379-69-7 221379-70-0 221379-71-1,
 Poly(methyl-1-naphthalenylsilylene) 221548-14-7 221548-15-8
 221548-50-1 221633-63-2 221633-64-3 221633-66-5 221633-68-7
 221633-70-1 221633-72-3 221633-74-5 221633-75-6 221633-77-8
 221633-79-0 221633-81-4 221633-83-6 221633-85-8 221633-87-0
 221658-75-9

(polysilanes for **resist etching mask** for
 formation of **resist pattern**)

IT 153700-08-4, APEX E 183023-97-4, TDUR N908 202218-68-6, TDUR
 P007

(polysilanes for **resist etching mask** for
 formation of **resist pattern**)

IT 15411-17-3P 209416-71-7P

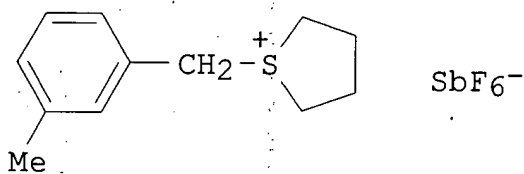
(prepn. of polysilanes for **resist etching mask**
 for formation of **resist pattern**)

IT 124-70-9 754-75-6 1066-35-9, Dimethylchlorosilane 79343-32-1

(prepn. of polysilanes for **resist etching mask**
for formation of **resist pattern**)

L50 ANSWER 2 OF 14 HCA COPYRIGHT 2004 ACS on STN
127:150054 Polysiloxane compositions and manufacture of flexible electrically insulating and conductive membranes, and coloring materials from the compositions. Hayase, Shuji; Kani, Rikako; Nakano, Yoshihiko; Okino, Takeshi; Fujioka, Sawako; Mikoshiba, Satoshi (Toshiba Corp., Japan). Jpn. Kokai Tokkyo Koho JP 09188814 A2 19970722 Heisei, 21 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1996-384 19960108.

GI



AB Title compns. contain polysiloxanes having repeating units of [SiHR10] [R1 = (un)substituted aryl, heteroaryl] and compds. generating acids and/or radicals by heating or radiation. Flexible elec. insulating membranes are manufd. by forming membranes of the above compns., followed by (A) crosslinking by heating, (B) **patternwise** irradiation and development with aq. alkali solns., or (C) **patternwise** irradiation, baking, and development with org. solvents. Also claimed is manuf. of coloring materials (e.g. color filters) and elec. conductive membranes from the above compns. Thus, PhSiHCl2 was treated with conc. HCl in MePh at 70.degree. for 3 h to give 45% [SiHPhO]_n with Mw 6000, which was stable at room temp. for .gtoreq.1 yr. The homopolymer was mixed with acid generator I in MePh, coated on a glass substrate, and treated at 150.degree. for 2 h to give a crack-free membrane with dielec. const. 3.2.

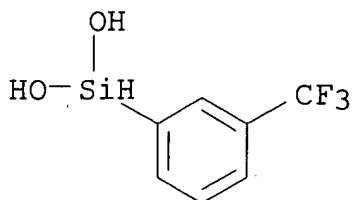
IT 193289-52-ODP, hydroxylated 193289-53-1DP, hydroxylated
(crosslinked; H-contg. polysiloxane compns. contg. acid or radical generators for flexible elec. insulating and conductive membranes, and coloring materials)

RN 193289-52-0 HCA

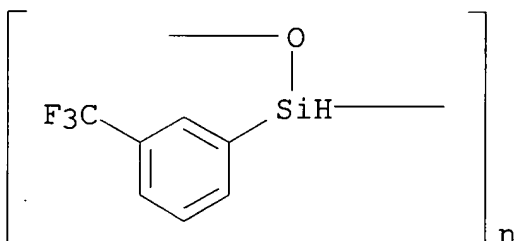
CN Silanediol, [3-(trifluoromethyl)phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 193289-51-9
CMF C7 H7 F3 O2 Si



RN 193289-53-1 HCA
CN Poly[oxy[[3-(trifluoromethyl)phenyl]silylene]] (9CI) (CA INDEX NAME)



IC ICM C08L083-04
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37, 74, 76
ST elec insulator conductor membrane polysiloxane manuf; crosslinking acid radical generator polysiloxane; heat irradiation crosslinking polysiloxane flexibility; color filter polysiloxane acid radical generator; phenyldichlorosilane hydrolytic homopolymer elec insulator membrane; **pattern** formation polysiloxane acid radical generator
IT Crosslinking
Electric conductors
Electric insulators
Optical filters
Photoresists
(H-contg. polysiloxane compns. contg. acid or radical generators for flexible elec. insulating and conductive membranes, and coloring materials)
IT **193289-52-0DP**, hydroxylated **193289-53-1DP**, hydroxylated **193289-54-2DP**, hydroxylated (crosslinked; H-contg. polysiloxane compns. contg. acid or radical generators for flexible elec. insulating and conductive membranes, and coloring materials)

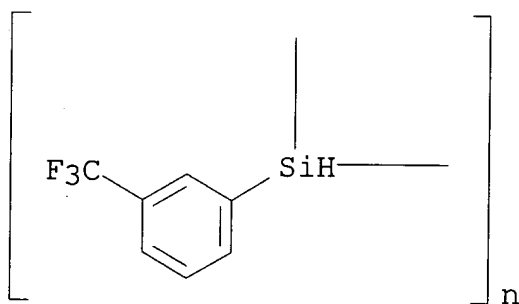
126:218592 **Resists** and **pattern** formation using them, silicon-containing resin compositions and manufacture of insulating films. Hayase, Shuji; Mikoshiba, Satoshi; Nakano, Yoshihiko; Kawada, Rikako; Okino, Takashi; Fujioka, Sawako (Tokyo Shibaura Electric Co, Japan). Jpn. Kokai Tokkyo Koho JP 09015864 A2 19970117 Heisei, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-55029 19960312. PRIORITY: JP 1995-105165 19950428.

AB Claimed **resists** comprise polysilanes having repeating unit SiArH (Ar = C6-24 aryl). Also claimed **resists** comprise polysilanes having repeating unit SiArH and crosslinking agents. Claimed **pattern** formation comprises alkali development of the **resists**. Claimed Si-contg. resin compns. comprise polysilanes having repeating unit SiR1H (I; R1 = aryl, alkyl) and SiO2 powders and/or SiN powders. Insulating films are manufd. by forming organosilicon compd. films contg. I on substrates and heat drying under O-contg. atms. to give 3-dimensional structure. The **resists** give fine **pattern** with high accuracy and sensitivity by alkali development.

IT 188001-08-3
(**resists** contg. polysilanes for **pattern** formation by alkali development and manuf. of insulating films)

RN 188001-08-3 HCA

CN Poly[[3-(trifluoromethyl)phenyl]silylene] (9CI) (CA INDEX NAME)



IC ICM G03F007-075

ICS C08G077-60; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **resist pattern** formation polysilane alkali development

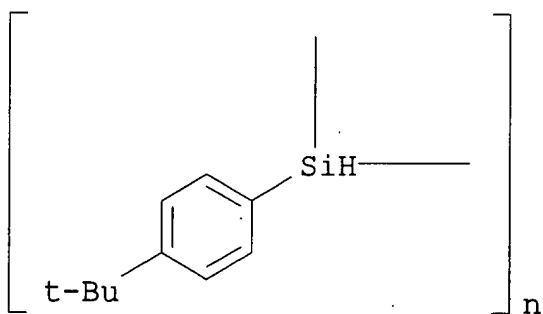
IT **Photoresists**

(**resists** contg. polysilanes for **pattern** formation by alkali development and manuf. of insulating films)

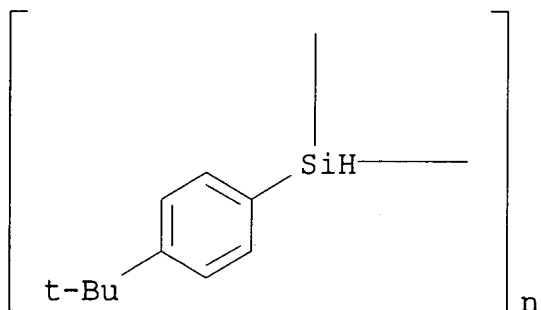
IT Polysilanes

(**resists** contg. polysilanes for **pattern** formation by alkali development and manuf. of insulating films)

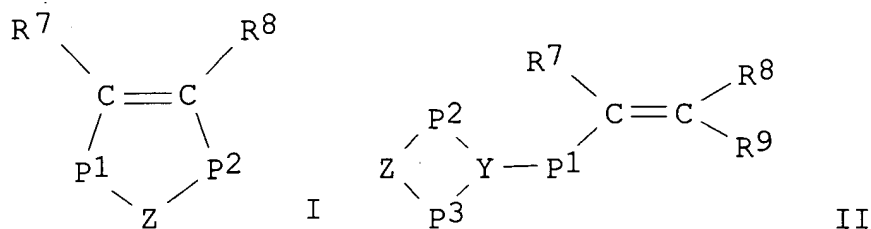
- IT 7631-86-9, Silica, uses 12033-89-5, Silicon nitride, uses (insulating films manuf. with; **resists** contg. polysilanes for **pattern** formation by alkali development for)
- IT 95584-36-4, Polyphenylsilylene 99936-07-9 124022-84-0, Dichloromethylphenylsilane-dichloromethylsilane copolymer 183790-11-6 **188001-08-3** 188001-11-8 (**resists** contg. polysilanes for **pattern** formation by alkali development and manuf. of insulating films)
- L50 ANSWER 4 OF 14 HCA COPYRIGHT 2004 ACS on STN
- 124:101676 Environmentally friendly polysilane **photoresists**. Beach, James V.; Loy, Douglas A.; Hsiao, Yu-Ling; Waymouth, Robert M. (Properties Organic Materials Department, Sandia National Laboratories, Albuquerque, NM, 87815-1407, USA). ACS Symposium Series, 614 (Microelectronics Technology), 355-66 (English) **1995**. CODEN: ACSMC8. ISSN: 0097-6156. Publisher: American Chemical Society.
- AB Several novel polysilanes synthesized by the free-radical hydrosilylation of oligomeric polyphenylsilane or poly(p-tert-butylphenylsilane) were examd. for lithog. behavior. This recently developed route into substituted polysilanes has allowed for the rational **design** of a variety of polysilanes with atypical chem. properties such as alc. and aq. base soly. Many of the polysilane **resists** made could be developed in aq. sodium carbonate and sodium bicarbonate solns. These materials represent environmentally friendly polysilane **resists** in both their synthesis and processing.
- IT **172702-84-0DP**, reaction products with vinyl acetic acid **172702-84-0P** (synthesis of environmentally friendly polysilane **photoresists** by free-radical hydrosilylation)
- RN **172702-84-0** HCA
- CN Poly[[4-(1,1-dimethylethyl)phenyl]silylene] (9CI) (CA INDEX NAME)



- RN **172702-84-0** HCA
- CN Poly[[4-(1,1-dimethylethyl)phenyl]silylene] (9CI) (CA INDEX NAME)



- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST synthesis environmentally friendly polysilane **photoresist** hydrosilylation
- IT Hydrosilylation
(synthesis of environmentally friendly polysilane **photoresists** by free-radical hydrosilylation)
- IT Polysilanes
(synthesis of environmentally friendly polysilane **photoresists** by free-radical hydrosilylation)
- IT Lithography
Resists
(photo-, synthesis of environmentally friendly polysilane **photoresists** by free-radical hydrosilylation)
- IT 108-05-4DP, Poly[[2-(acetyloxy)ethyl]phenylsilylene], reaction products with polyphenylsilane 108-94-1DP, Cyclohexanone, reaction products with polyphenylsilane 115-11-7DP, reaction products with polyphenylsilane 116-11-0DP, Poly[(2-methoxypropyl)phenylsilylene], reaction products with polyphenylsilane 625-38-7DP, Poly[(3-carboxypropyl)phenylsilylene], reaction products with polyphenylsilane 95584-36-4DP, Poly(phenylsilylene), reaction products with vinyl compd. or cyclohexanone 110839-65-1P, Poly(ethylphenylsilylene) 172702-81-7P 172702-83-9P 172702-84-0DP, reaction products with vinyl acetic acid 172702-84-0P
(synthesis of environmentally friendly polysilane **photoresists** by free-radical hydrosilylation)
- L50 ANSWER 5 OF 14 HCA COPYRIGHT 2004 ACS on STN
122:20500 positive-working **photoresist** composition. Aoso, Toshiaki; Mizutani, Kazuyoshi (Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06027670 A2 19940204 Heisei, 45 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-12540 19910111.
- GI



AB The title **photoresist** compn. contains (1) a polysiloxane compd. contg. .gtoreq.1 mol% siloxane unit obtained by cyclic thermal addn. reaction of $R_1R_2C=CR_3C(SiX_1X_2X_3)=CR_4R_5$, $R_1R_2C=CR_3CR_4=CR_5(SiX_1X_2X_3)$, etc. with $R_7C(QP_1)=CR_8R_9$, I, II, $QP_1C.tplbond.CR_9$ [$R_1-5 = H$, alkyl, aryl, silyl, siloxy; $R_7-9 = H$, alkyl, alkoxy, aryl, CN, NO_2 , $-P_1Q$, etc.; R_7 and R_8 , or R_7 and P_1 may form a ring; $X_1-3 = OH$, hydrolyzable group; $P_1-3 =$ single bond, alkylene, arylene; $Y =$ trivalent arom. group; $Q =$ acid group of $pK_a .ltoreq.12$; Z], and (2) a .alpha.-diazoketone compd. or 2-diazo-1,3-diketone compd. Fine **resist patterns** can be obtained with this compn.

IT **158829-00-6**

(ladder, pos.-working **photoresist** compn. from)

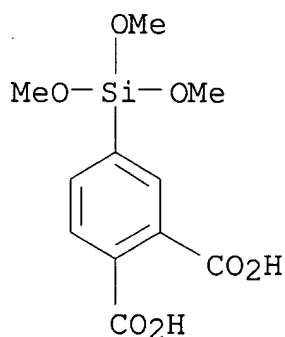
RN 158829-00-6 HCA

CN 1,2-Benzenedicarboxylic acid, 4-(trimethoxysilyl)-, polymer with trimethoxy(4-methylphenyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 158828-99-0

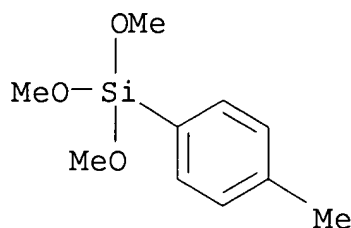
CMF C11 H14 O7 Si



CM 2

CRN 17873-01-7

CMF C10 H16 O3 Si



- IC ICM G03F007-075
ICS C08L083-04; G03F003-10; G03F007-00; G03F007-038; G03F007-16;
H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
- ST pos working **photoresist** compn silsesquioxane
- IT Silsesquioxanes
(pos.-working **photoresist** compn. from)
- IT **Resists**
(photo-, compn., pos.-working, from silsesquioxane and
diazoketone compd.)
- IT 158828-98-9 **158829-00-6** 158829-03-9 159438-75-2
159438-77-4 159519-41-2 159519-42-3
(ladder, pos.-working **photoresist** compn. from)
- IT 123153-97-9 125009-92-9
(ladder, pos.-working **photoresist** compn. from)
- L50 ANSWER 6 OF 14 HCA COPYRIGHT 2004 ACS on STN
- 121:232540 Development of new polymeric materials for linear waveguides.
Kim, H. K.; Kahn, S.; Mates, T.; Barclay, G.; Ober, C. K. (Dep.
Mater. Sci. Eng., Cornell Univ., Ithaca, NY, 14853-1501, USA).
Materials Research Society Symposium Proceedings, 264(Electronic
Packaging Materials Science VI), 347-52 (English) **1992**.
CODEN: MRSPDH. ISSN: 0272-9172.
- AB We have evaluated the use of either poly(phenylene) prepd. via
spin-coatable polymeric precursors, or fluorinated polysilynes for
optical waveguides. Poly(phenylene) precursors were converted into
poly(phenylene) by either curing at 300.degree. or by deep-UV
exposure in the presence of a photoacid generator. The
poly(phenylene)s have a no. of desirable properties for optical
waveguide applications, including good near-IR transmission, low
dielec. const., thermal and environmental stability, and ease of
pattern fabrication using microlithog. techniques.
Copolysilynes were spin-coated onto various types of substrates and
then exposed by deep-UV radiation. Upon exposure to deep UV irradiation
in the presence of air, they undergo photooxidative crosslinking to
give insol. glass-like materials. This photo-oxidation process is

accompanied by a large decrease in refractive index from $n = 1.61$ to $n = 1.485$. The photooxidn. results suggest that their potential applications are as **photoresists** and optical waveguides.

IT 142200-56-4

(properties of optical waveguides from)

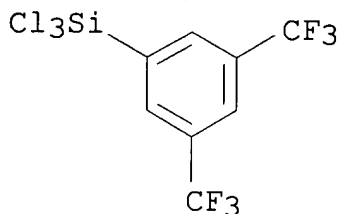
RN 142200-56-4 HCA

CN Silane, [3,5-bis(trifluoromethyl)phenyl]trichloro-, polymer with trichlorocyclohexylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 328-76-7

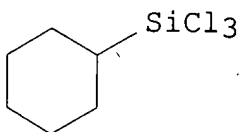
CMF C8 H3 Cl3 F6 Si



CM 2

CRN 98-12-4

CMF C6 H11 Cl3 Si



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 73, 74

IT 25190-62-9, Poly(p-phenylene) 113219-09-3 142200-56-4

142200-58-6

(properties of optical waveguides from)

L50 ANSWER 7 OF 14 HCA COPYRIGHT 2004 ACS on STN

121:217658 Water-developable oxygen plasma-resistant **photoresist**. Aoso, Toshiaki; Mizutani, Kazuyoshi (Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06059458 A2 19940304 Heisei, 47 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-12671 19910111.

AB The title **photoresist** comprises a polysiloxane contg. .gtoreq.1 mol% of siloxane units derived from the

cyclization-thermal addn. products of organosilicon compds. and a **photosensitive** azide. The title neg.-working **photoresist** is useful in making lithog. plates, in color proofing, in making transparencies for overhead projectors, and in fine **patterning** for semiconductor device fabrication.

IT 158257-43-3P

(Water-developable oxygen plasma-resistant **photoresist** contg.)

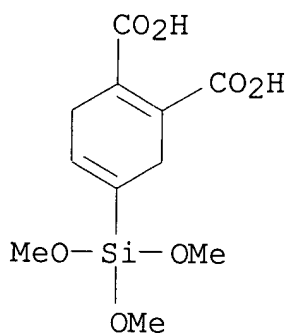
RN 158257-43-3 HCA

CN 1,4-Cyclohexadiene-1,2-dicarboxylic acid, 4-(trimethoxysilyl)-, polymer with trimethoxy(4-methylphenyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 158257-42-2

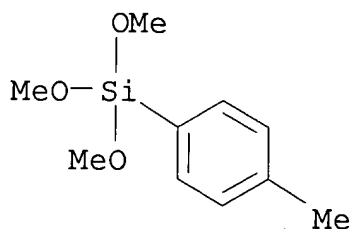
CMF C11 H16 O7 Si



CM 2

CRN 17873-01-7

CMF C10 H16 O3 Si



IC ICM G03F007-075

ICS C08L083-04; G03F003-10; G03F007-00; G03F007-008; G03F007-038; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)

ST **photoresist** polysiloxane azide

IT Silsesquioxanes
(Water-developable oxygen plasma-resistant **photoresist**)

IT Lithographic plates
(Water-developable oxygen plasma-resistant **photoresist** for)

IT Semiconductor devices
(Water-developable oxygen plasma-resistant **photoresist** for fabrication of)

IT **Resists**
(photo-, polysiloxane- and azide-contg.)

IT 5284-79-7, 2,6-Di(4'-azidobenzal)-4-methylcyclohexanone 5284-80-0
(Water-developable oxygen plasma-resistant **photoresist** contg.)

IT **158257-43-3P** 158257-45-5P 158257-47-7P 158257-50-2P
158257-52-4P 158257-54-6P
(Water-developable oxygen plasma-resistant **photoresist** contg.)

L50 ANSWER 8 OF 14 HCA COPYRIGHT 2004 ACS on STN

118:179837 Surface-imaged silicon polymers for 193-nm excimer laser lithography. Kunz, Roderick R.; Horn, Mark W.; Wallraff, Greg M.; Bianconi, Patricia A.; Miller, Robert D.; Goodman, Russell W.; Smith, David A.; Eshelman, Jon R.; Ginsberg, Eric J. (Lincoln Lab., Massachusetts Inst. Technol., Lexington, MA, 02173-9108, USA). Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers, 31(12B), 4327-31 (English) **1992**. CODEN: JAPNDE. ISSN: 0021-4922.

AB Neg.-tone surface-imaged **resist** process based upon the area-selective oxidn. of silicon-backbone polymers, is described. A bromine-based plasma is the **resist** developer, where the oxidized polymer inhibits the bromine-initiated etching to yield a neg.-tone image. Using either polysilanes or polysilynes, **resist** sensitivities in the range of 50 mJ/cm² were obtained and resolns. to 0.2 .mu.m achieved. **Photosensitizers** can be added to further accelerate the photooxidn., resulting in sensitivities <20 mJ/cm². The latent image formation is reciprocal with respect to fluence in the range 0.05 to 1.5 mJ/cm² per pulse and with respect to repetition rate. The photooxidn. contrast is one, whereas the bromine-based etch step can have a contrast as high as 5. In addn., the exposure, focus, and development latitudes were all characterized and compared to other surface-imaged 193-nm **resist** systems. When high-ion-d. plasma sources are used, throughput levels appropriate for single-wafer processing can be achieved.

IT **134416-28-7**
(lithog. **photoresist** for excimer laser exposures,

neg.-tone surface-imaged process for, area-selective photooxidn. in)

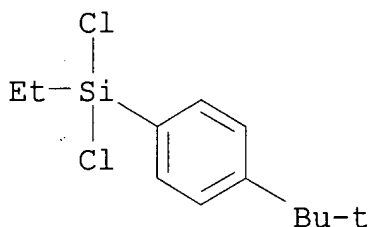
RN 134416-28-7 HCA

CN Silane, dichloro[4-(1,1-dimethylethyl)phenyl]ethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 134416-27-6

CMF C12 H18 Cl2 Si



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST excimer **laser** lithog silicon **polymer resist**; polysilane polysilyne optical lithog **resist**; **photoresist** polysilane polysilyne surface imaging

IT Oxidation, photochemical (area-selective, of polysilane and polysilyne **photoresists**, in neg.-tone surface-imaged lithog.)

IT Polysilanes (**photoresists** for excimer laser lithog., neg.-tone surface-imaged process for, area-selective photooxidn. in)

IT **Resists** (photo-, neg.-working, polysilynes and polysilanes as, for excimer laser exposures, surface-imaged process for, area-selective oxidn. in)

IT Polymers, properties (polysilynes, **photoresists** for excimer laser lithog., neg.-tone surface-imaged process for, area-selective photooxidn. in)

IT 31324-77-3 41087-22-3 113219-09-3 118018-36-3

134416-28-7 136074-34-5

(lithog. **photoresist** for excimer laser exposures, neg.-tone surface-imaged process for, area-selective photooxidn. in)

IT 6542-67-2

(lithog. polysilane and polysilyne **photoresists** for excimer laser exposures sensitized by, neg.-tone surface-imaged process for, area-selective photooxidn. in)

IT 10035-10-6, Hydrogen bromide, uses
(plasma, dry development of polysilane and polysilyne
photoresists by, chem. in)

IT 7782-44-7, Oxygen, uses
(plasma, **pattern**-transfer step using polysilane and
polysilyne **photoresists** and)

L50 ANSWER 9 OF 14 HCA COPYRIGHT 2004 ACS on STN

112:28155 **Pattern**-forming materials and multilayer circuit
boards using them. Ban, Koji; Tanaka, Haruyori (Nippon Telegraph and
Telephone Public Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01102550
A2 **19890420** Heisei, 7 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1987-259521 19871016.

GI

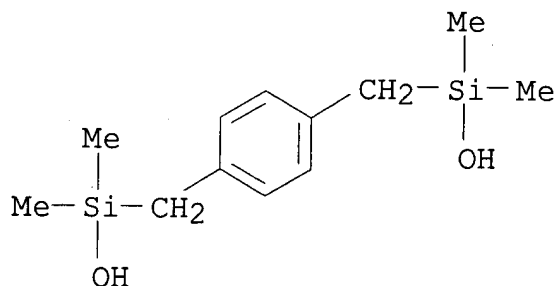
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title materials that can be used as interlayer insulation films
or surface protection films contain org. Si compds. in
photosensitive resin compns. contg. alkali-sol. silicone I
or II (X = (un)substituted hydrocarbyl; R1-4 = OH, alkyl, Ph; l, m,
N .gtoreq. 0, excluding l = m = 0; p > 0] and o-naphthoquinone-type
sensitizer.

IT **5015-83-8**
(silicone **photoresists** contg., for circuit board
manuf.)

RN 5015-83-8 HCA

CN Silanol, [1,4-phenylenebis(methylene)]bis(dimethyl- (9CI) (CA INDEX
NAME)



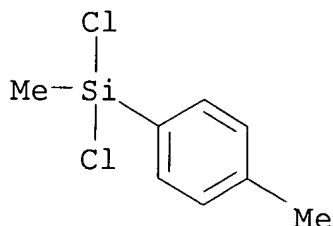
IC ICM G03C001-72

ICS G03C001-00; H01L021-312; H01L021-90; H05K003-46

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

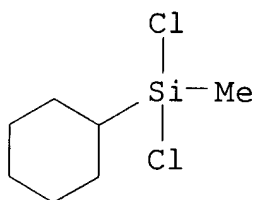
- Section cross-reference(s): 76
- ST silicone **photoresist** multilayer circuit board
- IT Silsesquioxanes
(**photoresists**, for circuit board manuf.)
- IT Crosslinking agents
(silane derivs., for silicone **photoresists**)
- IT Siloxanes and Silicones, uses and miscellaneous
(di-Ph, **photoresists**, for circuit board manuf.)
- IT **Resists**
(photo-, silicones and silsesquioxanes)
- IT Electric circuits
(printed, boards, manuf. of, **photoresists** for)
- IT 76169-06-7
(**photosensitizers**, in silicone **photoresists**)
- IT 2754-32-7 3089-06-3 3663-50-1 **5015-83-8** 68026-53-9
124329-57-3 124329-58-4 124345-70-6
(silicone **photoresists** contg., for circuit board
manuf.)
- L50 ANSWER 10 OF 14 HCA COPYRIGHT 2004 ACS on STN
- 111:144081 Electrophotographic photoconductors containing polysilanes as
charge carrier-transporting agents. Takano, Toshimasa; Takayama,
Teruo (Nihon Shizai Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
01088461 A2 **19890403** Heisei, 9 pp. (Japanese). CODEN:
JKXXAF. APPLICATION: JP 1987-247423 19870929.
- AB Polymers [-SiR₁R₂(SiR₃R₄)_m]_n (R₁ = C1-7 alkyl; R₂ = C1-7 alkyl,
cyclohexyl; R₃ = C1-7 alkyl, aryl; R₄ = cyclohexyl, aryl; m = 0-2.0;
n = polymn. deg.) are contained in the **photosensitive**
layer of the photoconductors. The use of these polysilanes as
charge carrier-transporting agents provides much improved response,
and eliminates the use of binders in the charge-transporting layer,
much simplifying the **designing** and fabrication. Thus,
poly(methylphenylsilane), obtained by polymn. of methylphenyl
dichlorosilane by Na, dissolved in PhMe-THF was applied on a charge
carrier- generating layer of the photoconductor contg. Chloro Diane
Blue and polyester binder, to obtain a photoconductor which was
chargeable to -683 V and provided residual voltage -10 V and
sensitivity (irradn. dose required for half decay of voltage) 2.3
lx-s.
- IT **89485-80-3P**
(prepn. and use of, in electrophotog. photoconductors, as charge
carrier-transporting agent)
- RN 89485-80-3 HCA
- CN Silane, dichlorocyclohexylmethyl-, polymer with dichloromethyl(4-
methylphenyl)silane (9CI) (CA INDEX NAME)

CRN 18236-57-2
CMF C8 H10 Cl2 Si



CM 2

CRN 5578-42-7
CMF C7 H14 Cl2 Si



IC ICM G03G005-07
ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 5521-31-3P 31324-77-3P 70158-17-7P 76188-55-1P,
Poly(methylphenylsilylene) **89485-80-3P** 99560-01-7P
113925-33-0P 122644-37-5P 122644-38-6P 122644-41-1P
122644-71-7P

(prepn. and use of, in electrophotog. photoconductors, as charge carrier-transporting agent)

L50 ANSWER 11 OF 14 HCA COPYRIGHT 2004 ACS on STN

110:182971 Silane polymer-based negative-type radiation **resists** and forming **patterns** therefrom. Gokochi, Toru; Watanabe, Haruaki; Tada, Tsukasa (Toshiba Corp., Japan). Jpn. Kokai Tokkyo Koho JP 63158539 A2 **19880701** Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-305353 19861223.

AB The highly sensitive title **resists** showing good resistance to O plasma dry etching comprise mainly polymers of organosilicon compds. R1R2R3R4Si (at least one of R1, R2, and R3 = Cl, while the other(s) Ph, alkyl, vinyl; R4 = allyl, vinyl) and optionally other Cl-contg. organosilicon compds., obtained by polymn. in the presence

of alkali metal catalysts. A mixt. of alkylphenyldichlorosilane 0.2, methylmesityldichlorosilane 0.8, and Na 2 mol was heated at 135.degree. under reflux for 24 h to give a copolymer of mol. wt. 10,000-70,000. A 5% soln. of this polymer in toluene was coated 0.2 .mu.m thick (dry) on a Si wafer, exposed to electron beam, and developed with MEK for 2 min to give a neg. **pattern** with resolu. 0.1 .mu.m and sensitivity (D0.5) 2.1 .mu.C/cm2.

IT 120217-96-1P

(manuf. of, for neg. electron-beam **resists** and **photoresists**, resistant to oxygen plasma etching)

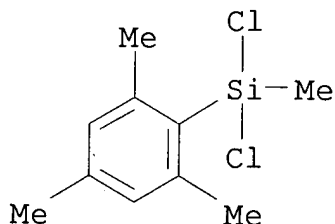
RN 120217-96-1 HCA

CN Silane, dichloromethyl(2,4,6-trimethylphenyl)-, polymer with dichlorophenyl-2-propenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 120217-95-0

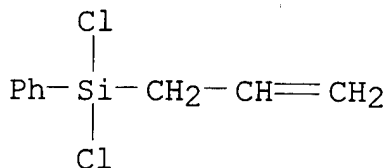
CMF C10 H14 Cl2 Si



CM 2

CRN 7719-03-1

CMF C9 H10 Cl2 Si



IC ICM G03C001-71

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

ST electron beam **resist** polysilane; etching resistant polysilane **resist**

IT **Resists**

(electron-beam, neg., resistant to oxygen plasma dry etching, polysilanes in)

IT **Resists**

(photo-, neg.-working, resistant to oxygen plasma dry etching, polysilanes in)

IT 90570-36-8P 114731-51-0P 114732-14-8P, Poly(phenyl-2-propenylsilylene) **120217-96-1P** 120217-97-2P
(manuf. of, for neg. electron-beam **resists** and **photoresists**, resistant to oxygen plasma etching)

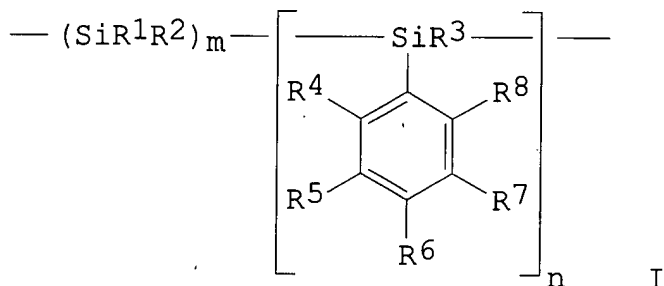
L50 ANSWER 12 OF 14 HCA COPYRIGHT 2004 ACS on STN

110:31434 Radiation **resist** materials. Gokochi, Toru;

Watanabe, Haruaki; Tada, Tsukasa (Toshiba Corp., Japan). Jpn. Kokai Tokkyo Koho JP 63141046 A2 **19880613** Showa, 6 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-286594 19861203.

GI



AB **Resist** materials contain polysilanes I [R1-3 = Me, Ph; R4-8 = H, Me (.gtoreq.1 of R4-8 = Me); n > 0; m = .gtoreq. 0]. These materials have high sensitivity and resistance to dry etching with O. Thus, polymethylmesitylsilane with wt.-av. mol. wt. 9500 was obtained by polymn. of methylmesitylsilane in xylene in the presence of Na, dissolved in MePh to 10% concn., and mixed with 2,6-bis(4'-azidobenzal)-4-methylcyclo hexanone (10% wt. of polymer). Si wafer coated with this soln. and dried was **patterned** with electron beam and developed with 3:1 MEK-isopropanol to obtain neg. **pattern** having 0.25-.mu.m lines, using 15-.mu.C/cm2 dose. The use of this **resist** as the upper layer of 2-layered **resist** and dry etching with O gave fine **pattern**, showing high etching resistance.

IT **118032-13-6 118032-14-7**

(radiation **resists** contg., with high sensitivity and etching resistance)

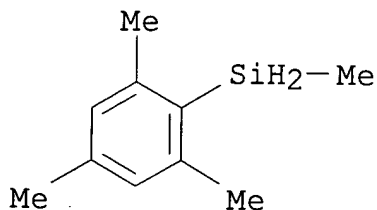
RN 118032-13-6 HCA

CN Silane, methyl(2,4,6-trimethylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118032-12-5

CMF C10 H16 Si



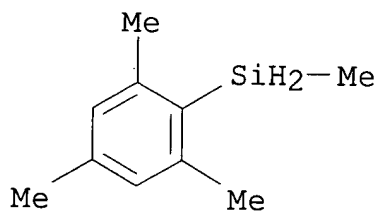
RN 118032-14-7 HCA

CN Silane, methyl(2,4,6-trimethylphenyl)-, polymer with dimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 118032-12-5

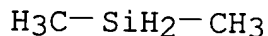
CMF C10 H16 Si



CM 2

CRN 1111-74-6

CMF C2 H8 Si



IC ICM G03C001-71

ICS G03C001-71; G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

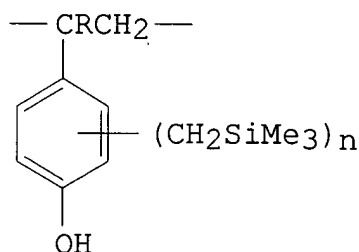
ST **resist** radiation polysilane etching resistantIT **Resists**

(radiation-sensitive, polysilane, with high sensitivity and

- etching resistance)
 IT 118091-83-1
 (radiation **resists** contg. polysilanes and, with high sensitivity and etching resistance)
 IT 118032-13-6 118032-14-7
 (radiation **resists** contg., with high sensitivity and etching resistance)

L50 ANSWER 13 OF 14 HCA COPYRIGHT 2004 ACS on STN
 109:46228 Bilayered positive **photoresist**. Saito, Kazumasa;
 Kawasaki, Yoko; Yoneda, Yasuhiro (Fujitsu Ltd., Japan). Jpn. Kokai
 Tokkyo Koho JP 62210456 A2 19870916 Showa, 4 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-54212 19860312.

GI

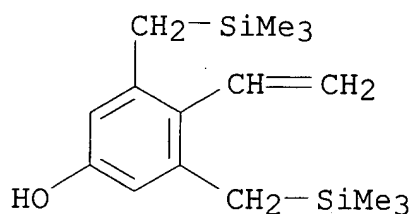


AB The title **photoresist** is a mixt. of alkali-sol. resins of structural repeating units I (R = H, Me; n = 1, 2) and o-naphthoquinone diazide derivs. **Patterns** having high resolu. can be formed even on an uneven substrate. Thus, I (R = H), prepd. from ethylhydroxybenzene, 2-tert-butylacetic acid, and Me3SiCH2Br, was mixed with D-022 (o-naphthoquinone diazide deriv.) spin-coated on a substrate, which was leveled with OFPR-800 (pos. **photoresist**), exposed (g-line 436 nm), and developed to form **patterns** on the upper **resist** layer. The lower **resist** was dry-etched with an O plasma to give precise **patterns**.

- IT 115137-96-7P 115137-98-9P
 (pos. **photoresist**, upper layer of bilayered, prepn. of)
 RN 115137-96-7 HCA
 CN Phenol, 4-ethenyl-3,5-bis[(trimethylsilyl)methyl]-, homopolymer
 (9CI) (CA INDEX NAME)

CM 1

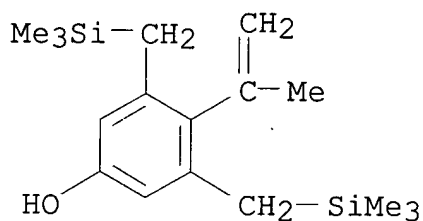
CRN 115137-95-6
 CMF C16 H28 O Si2



RN 115137-98-9 HCA
 CN Phenol, 4-(1-methylethenyl)-3,5-bis[(trimethylsilyl)methyl]-,
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 115137-97-8
 CMF C17 H30 O Si2

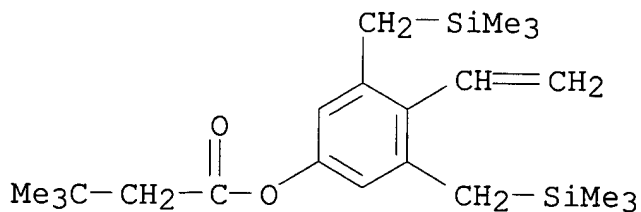


IT 115137-94-5P
 (prepn. and deesterification of, in prepn. of bilayer pos.
photoresist upper layer)

RN 115137-94-5 HCA
 CN Butanoic acid, 3,3-dimethyl-, 4-ethenyl-3,5-
 bis[(trimethylsilyl)methyl]phenyl ester, homopolymer (9CI) (CA
 INDEX NAME)

CM 1

CRN 115137-93-4
 CMF C22 H38 O2 Si2

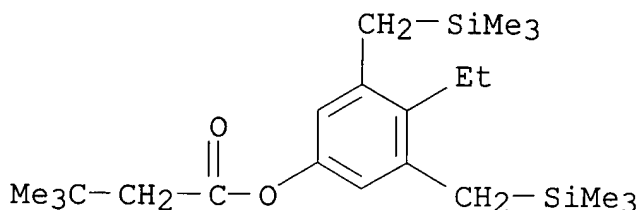


IT 115281-03-3P

(prepn. and dehydrogenation of, in prepn. of bilayer pos.
photoresist upper layer)

RN 115281-03-3 HCA

CN Butanoic acid, 3,3-dimethyl-, 4-ethyl-3,5-
 bis[(trimethylsilyl)methyl]phenyl ester (9CI) (CA INDEX NAME)

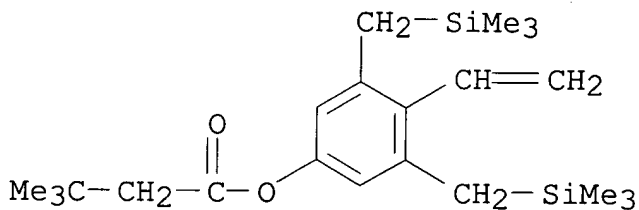


IT 115137-93-4P

(prepn. and polymn. of, in prepn. of bilayer pos.
photoresist upper layer)

RN 115137-93-4 HCA

CN Butanoic acid, 3,3-dimethyl-, 4-ethenyl-3,5-
 bis[(trimethylsilyl)methyl]phenyl ester (9CI) (CA INDEX NAME)



IC ICM G03C001-72

ICS G03C001-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)

ST bilayer pos **resist** upper layer; methylsilylmethylstyrene
 polymer upper pos **resist**; styrene methylsilylmethyl
 polymer upper pos **resist**; naphthoquinone diazide bilayer
 pos **resist**

IT Semiconductor devices

(pos.-working bilayered **photoresists** for manuf. of)

IT **Resists**

(photo-, pos.-working, bilayer, upper layer of, blend of
 methylsilylmethylstyrene polymer and naphthoquinone diazide as)

IT 18243-41-9, Trimethylsilylmethyl bromide

(Grignard reaction of, with bromoethylphenol butylacetic acid
 ester, in prepn. of bilayer pos. **photoresist** upper
 layer)

IT 123-07-9, p-Ethylphenol

(bromination of, in prepn. of bilayer pos. **photoresist**

upper layer)
 IT 99-89-8
 (pos. **photoresist** upper layer prepd. from)
 IT 115137-96-7P 115137-98-9P
 (pos. **photoresist**, upper layer of bilayered, prepn. of)
 IT 115281-02-2P
 (prepn. and Grignard reaction of, with methylsilylmethyl bromide
 in prepn. of bilayer pos. **photoresist** upper layer)
 IT 115137-94-5P
 (prepn. and deesterification of, in prepn. of bilayer pos.
photoresist upper layer)
 IT 115281-03-3P
 (prepn. and dehydrogenation of, in prepn. of bilayer pos.
photoresist upper layer)
 IT 115281-01-1P
 (prepn. and esterification of, with Bu acetic acid in prepn. of
 bilayer pos. **photoresist** upper layer)
 IT 115137-93-4P
 (prepn. and polymn. of, in prepn. of bilayer pos.
photoresist upper layer)

L50 ANSWER 14 OF 14 HCA COPYRIGHT 2004 ACS on STN

106:25816 **Resist patterning** method. Nate, Kazuo;

Inoue, Takashi; Sugiyama, Hisashi (Hitachi, Ltd., Japan). Jpn.

Kokai Tokkyo Koho JP 61151536 A2 **19860710** Showa, 7 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1984-273021 19841226.

AB A substrate having an org. surface layer is coated with a soln. of a
photosensitive polymer having the repeating unit
 $-Z[SiRR_1(SiR_2R_3)_n]-$ (Z = divalent org. group; $R-R_3$ = Me, Et, Pr, Ph;
 $n = 1-5$), dried, imagewise exposed, and developed with Cellosolve
 solvents to remove the irradiated parts. The method provides
 ultra-fine **patterning**, is simple, and uses small irradiation
 doses. Thus, p-bis(methylphenylethoxysilyl)benzene obtained by
 Grignard reaction of methylphenyldiethoxysilane with
 p-dibromobenzene was refluxed with $AcCl$ yielding
 p-bis(chloromethylphenylsilyl)benzene, which was heated in toluene
 with Na for 20 h. Repptn. of the product gave a polymer having
 units $-p-C_2H_4SiPhMeSiPhMe-$ (m.p. 155-163.degree.; no. av. mol. wt.
 34000), which was applied on a 2- μ . layer of Microposit 1370 on a
 Si wafer to form a 0.3- μ . **resist** layer. Selective
 exposure to UV, development with a 95:5 Et Cellosolve-isoamyl
 acetate mixt., and rinsing in iso-PrOH gave a **pattern**. A
 20-min etching with an O plasma gave a **pattern** having
 aspect ratio .gtoreq.3 and 0.5- μ . line width.

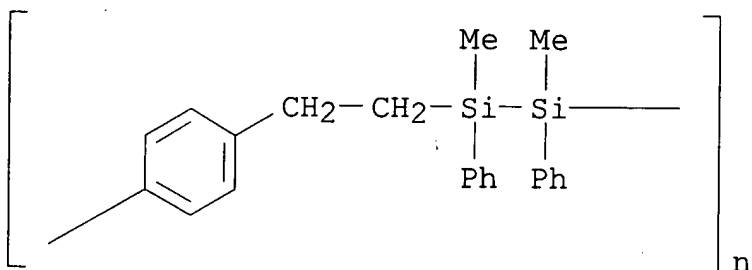
IT 105935-84-0

(**photoresist** bilayer system with imaging layer from)

RN 105935-84-0 HCA

CN Poly[(1,2-dimethyl-1,2-diphenyl-1,2-disilanediy1)-1,2-ethanediyl-1,4-

phenylene] (9CI) (CA INDEX NAME)



IC ICM G03C005-24
 ICS G03C001-72; G03C005-08; G03F007-00; H01L021-30
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 ST imaging **photoresist** silicone polymer
 IT **Resists**
 (photo-, bilayer, with silicone-contg. polymer in imaging layer)
 IT 95014-31-6 **105935-84-0**
 (photoresist bilayer system with imaging layer from)
 IT 94187-90-3
 (photoresist contg.)
 IT 18294-09-2
 (reaction of, in prepn. of polymeric **photoresists**)
 IT 3027-21-2, Methyl phenyl dimethoxysilane
 (reaction of, with dibromobenzene in prepn. of polymeric
photoresists)
 IT 108-94-1, uses and miscellaneous 109-86-4, Methyl cellosolve
 110-80-5, Ethyl cellosolve 123-92-2, Isoamyl acetate
 (solvent system contg., for bilayer **photoresist** with
 upper layer contg. silicone-contg. polymer)

=> d 151 1-23 cbib abs hitstr hitind

L51 ANSWER 1 OF 23 HCA COPYRIGHT 2004 ACS on STN
 135:249236 Polymeric fluorescent substance, polymeric fluorescent
 substance solution and polymer light-emitting device using the same.
 Ohnishi, Toshihiro; Noguchi, Takanobu; Tsubata, Yoshiaki; Ueda,
 Masato; Sasaki, Shigeru (Sumitomo Chemical Company, Limited, Japan).
 Eur. Pat. Appl. EP 1134269 A2 20010919, 25 pp. DESIGNATED STATES:
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP
 2001-302516 20010316. PRIORITY: JP 2000-74072 20000316; JP
 2000-147620 20000519; JP 2000-266643 20000904.
 AB Provided is a polymeric fluorescent substance which emits
 fluorescence in the solid state, has a polystyrene-reduced no.-av.

mol. wt. of 1×10^3 to 1×10^7 , and has at least one repeating unit of formula: $-\text{Ar}_1-(\text{CR}_1=\text{CR}_2)_k-$ (Ar_1 is a C6-60 arylene group or a C4-60 heterocyclic group participating in conjugation, and Ar_1 may further have one or more substituents; $\text{R}_1, \text{R}_2 = \text{H}, \text{CN}, \text{C}1\text{-}20$ alkyl groups, C6-60 aryl groups, or C4-60 heterocyclic groups; and $k = 0, 1$). The water content in this polymeric fluorescent substance measured by the Karl-Fischer method is not more than 1000 ppm by wt. Also provided is an org. electroluminescence device comprising at least one light-emitting layer comprising the above-mentioned polymeric fluorescent substance placed between an anode and a cathode, at least one of which is transparent or semitransparent, wherein the light-emitting layer comprises substantially no particle-like foreign material having a diam. of more than 1 μm .

IT 360568-82-7P

(polymeric fluorescent substance used in light emitting device)

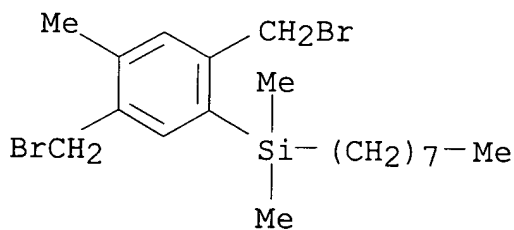
RN 360568-82-7 HCA

CN Silane, [2,5-bis(bromomethyl)-4-methylphenyl]dimethyloctyl-, polymer with 1,4-bis(bromomethyl)-2-(3,7-dimethyloctyl)-5-methylbenzene, 2,5-bis(chloromethyl)-4'-[(3,7-dimethyloctyl)oxy]-1,1'-biphenyl and 1,4-bis(chloromethyl)-2-[(2-ethylhexyl)oxy]-5-methoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 360568-81-6

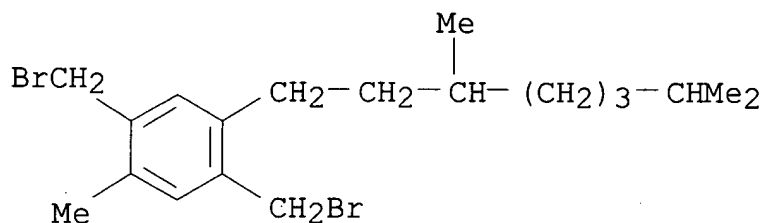
CMF C19 H32 Br2 Si



CM 2

CRN 349582-79-2

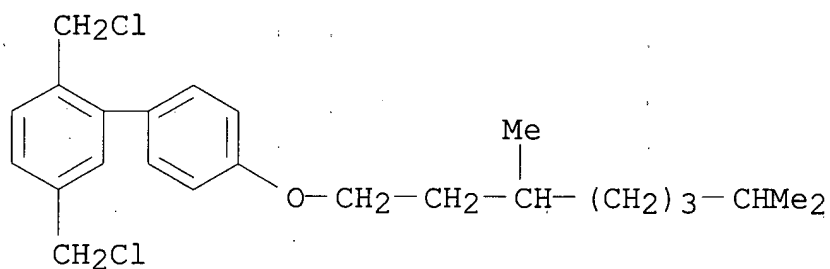
CMF C19 H30 Br2



CM 3

CRN 209347-81-9

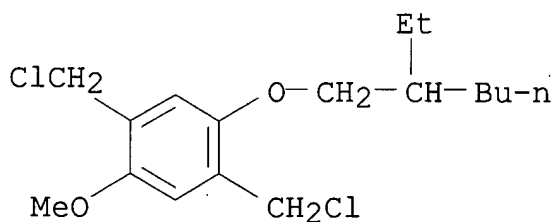
CMF C24 H32 Cl2 O



CM 4

CRN 146370-52-7

CMF C17 H26 Cl2 O2



IC ICM C09K011-06

ICS C08G061-02

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

IT 360568-76-9P 360568-80-5P **360568-82-7P**

(polymeric fluorescent substance used in light emitting device)

L51 ANSWER 2 OF 23 HCA COPYRIGHT 2004 ACS on STN

135:99922 Coating solution for forming transparent film, substrate having the film, and display device. Koyanagi, Tsugio; Matsuda, Masayuki; Komatsu, Michio (Catalysts and Chemicals Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001187864 A2 20010710, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-374534 19991228.

AB The coating soln. contains an inorg. oxide precursor and (R1O)R3R4SiXSiR5R6(OR2) [R1, R2 = H, (halogenated) alkyl, aryl, alkylaryl, arylalkyl, alkenyl, halogen; R3-R6 = H, alkoxy, (halogenated) alkyl, aryl, alkylaryl, arylalkyl, alkenyl, halogen; X = (CH2)n, C6H4, (CH2)nC6H4, (CH2)nC6H4(CH2)n, Sm, (CH2)nSm(CH2)n; m, n = 1-30] or their hydrolyzation condensates. The substrate is that manufd. by applying the soln. and drying for forming a transparent film on the surface. The display device has a front panel made of the substrate with the film showing good antistatic, electromagnetic-shielding, and antireflection effects.

IT 348088-71-1P

(coating soln. contg. inorg. oxide precursor and alkoxy silane for forming transparent film on front panel of display device)

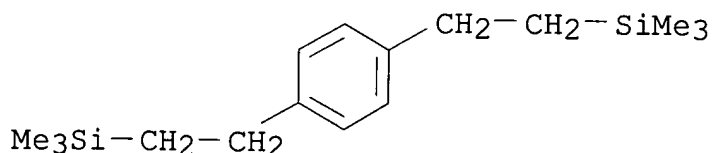
RN 348088-71-1 HCA

CN Silicic acid, ethyl ester, polymer with (1,4-phenylenedi-2,1-ethanediyl)bis[trimethylsilane] (9CI) (CA INDEX NAME)

CM 1

CRN 13617-35-1

CMF C16 H30 Si2



CM 2

CRN 11099-06-2

CMF C2 H6 O . x Unspecified

CM 3

CRN 1343-98-2

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 64-17-5

CMF C2 H6 O

H₃C-CH₂-OH

IC ICM C09D183-00

ICS B05D005-06; G09F009-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42, 76, 77

IT Electrooptical imaging devices

(cathode-ray tubes; coating soln. contg.

inorg. oxide precursor and alkoxysilane for forming transparent film on front panel of display device)

IT 348088-69-7P 348088-70-0P **348088-71-1P** 348088-72-2P

(coating soln. contg. inorg. oxide precursor and alkoxysilane for forming transparent film on front panel of display device)

L51 ANSWER 3 OF 23 HCA COPYRIGHT 2004 ACS on STN

135:99906 Optical recording medium using STM excitation method. Sasaki, Susumu; Furukawa, Kazuaki; Murashita, Itaru; Ehata, Keisuke (Nippon Telegraph and Telephone Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2001184745 A2 20010706, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-78786 20000321. PRIORITY: JP 1999-292255 19991014.

AB The optical recording medium comprises a recording layer or a light-emitting layer made from a Si polymer

[Si(p-C₆H₄R₁)(p-C₆H₄R₂)]_n (n.gtoreq.1; R_{1,2} = H, alkyl, alkoxy).

The app. using above optical recording medium is also claimed. The recording layer made from the Si polymer made a nanometer-size excitation possible.

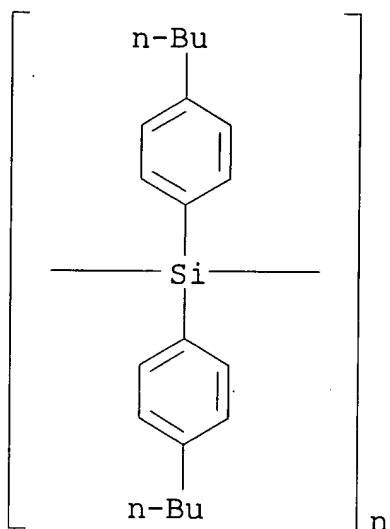
IT **107999-72-4**, Poly[bis(4-butylphenyl)silylene]

111939-58-3

(optical recording medium using STM excitation)

RN 107999-72-4 HCA

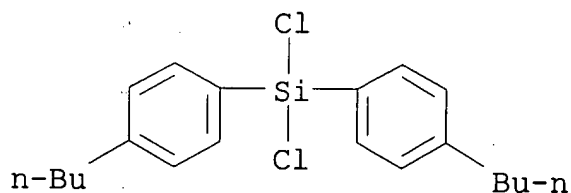
CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



RN 111939-58-3 HCA
 CN Silane, bis(4-butylphenyl)dichloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 111939-57-2
 CMF C20 H26 Cl2 Si



IC ICM G11B009-14
 ICS G11B009-14; B41M005-26; C09K011-06; G11B011-26
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38
 IT **107999-72-4**, Poly[bis(4-butylphenyl)silylene]
111939-58-3
 (optical recording medium using STM excitation)

L51 ANSWER 4 OF 23 HCA COPYRIGHT 2004 ACS on STN
 135:99664 Polymeric fluorescent substance and polymer light-emitting device. Ueda, Masato; Noguchi, Takanobu (Sumitomo Chemical Company, Limited, Japan). Eur. Pat. Appl. EP 1116768 A2 20010718, 28 pp.

DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-100073 20010110. PRIORITY: JP 2000-3567 20000112; JP 2000-143050 20000516; JP 2000-258642 20000829.

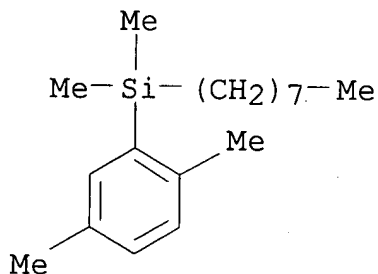
AB Polymeric fluorescent materials are described which are provided as phosphors in solid state comprising repeating units described by the general formula $-\text{Ar}_1-(\text{CR}_1:\text{CR}_2)_j-$, $-\text{Ar}_2(\text{X}-\text{R}_3)_k(\text{CR}_4:\text{CR}_5)_m-$, $\text{Ar}_3(\text{Ar}_4)_n(\text{CR}_6:\text{CR}_7)_p-$, $(\text{Ar}_5)(\text{R}_8)_q(\text{CR}_9:\text{CR}_{10})_r-$ ($\text{Ar}_1-5 = \text{C}_6-60$ arylene, heterocyclic group; $\text{R}_1-10 = \text{H}$, alkyl, aryl, heterocyclic groups; $\text{X} = \text{O}$ or S ; $j, m, p, r = 0$ or 1 ; $k, n, q = 1, 2, 3, \text{ or } 4$). The polymer based phosphors have specific carrier drift mobilities, repeating units, and specific no.-av. mol. wt. The polymeric phosphors have good soly. in org. solvents, and have higher efficiency and longer lifetime in applying as a polymer LED. Polymer light-emitting devices, esp. displays, comprising at least one light-emitting layer contg. the polymer phosphors, placed between a pair of an anode and a cathode at least one of which is transparent or semitransparent, wherein the light-emitting layer contains a polymer phosphor are also described.

IT 184687-89-6P

(polymeric phosphors and polymer light-emitting devices using them)

RN 184687-89-6 HCA

CN Silane, (2,5-dimethylphenyl)dimethyloctyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 74, 76

IT 184687-89-6P

(polymeric phosphors and polymer light-emitting devices using them)

L51 ANSWER 5 OF 23 HCA COPYRIGHT 2004 ACS on STN

132:158667 Near-ultraviolet electroluminescent performance of

polysilane-based light-emitting diodes with a double-layer structure. Hoshino, Satoshi; Ebata, Keisuke; Furukawa, Kazuaki (Nippon Telegraph and Telephone Corporation, NTT Lifestyle and Environmental Technology Laboratories, Musashino-shi, Tokyo, 180-8585, Japan). Journal of Applied Physics, 87(4), 1968-1973 (English) 2000. CODEN: JAPIAU. ISSN: 0021-8979.

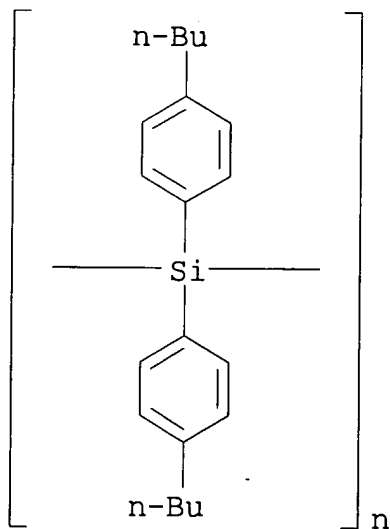
Publisher: American Institute of Physics.

AB The authors fabricated double-layer light-emitting diodes (LEDs) by using poly[bis(p-n-butylphenyl)silane] (PBPS) and oxadiazole derivs., and studied their basic LED characteristics. The near-UV electroluminescence (EL) performance, such as the EL threshold elec. field and the c.d., depended on the oxadiazole derivs. used as the electron transport materials as well as the components of the EL emission. The authors obsd. better EL performance where the EL external quantum efficiency in a double-layer LED with a 2-(4'-tert-butylphenyl)-5-(4''-biphenyl)-1,3,4-oxadiazole based electron transport layer was twice that of a PBPS single-layer LED. By contrast, the authors obsd. a worse EL threshold elec. field and c.d. when the authors used 2,5-bis(1-naphthyl)-1,3,4-oxadiazole as an electron transport material. The reason for the difference in the EL performance was revealed by studying the charge carrier injection and transport dynamics of the 2 LEDs.

IT 107999-72-4, Poly[bis(4-butylphenyl)silylene]
(near-UV electroluminescent performance of polysilane-based light-emitting diodes with double-layer structure)

RN 107999-72-4 HCA

CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 36, 76

IT 905-62-4, 2,5-Bis(1-naphthyl)-1,3,4-oxadiazole 9011-14-7, PMMA
107999-72-4, Poly[bis(4-butylphenyl)silylene]

(near-UV electroluminescent performance of polysilane-based
light-emitting diodes with double-layer structure)

L51 ANSWER 6 OF 23 HCA COPYRIGHT 2004 ACS on STN

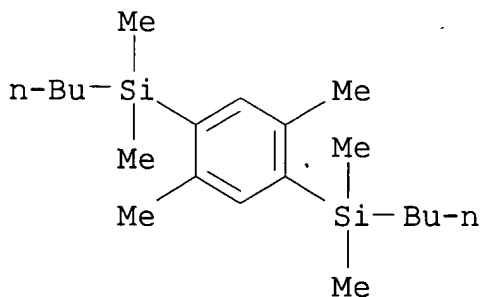
131:311120 Intense green light from a silyl-substituted
poly(p-phenylenevinylene)-based light-emitting diode with air-stable
cathode. Chen, Zhi-Kuan; Wang, Lian-Hui; Kang, En-Tang; Huang, Wei
(Institute of Materials Research and Engineering (IMRE), National
University of Singapore, Singapore, Singapore). Physical Chemistry
Chemical Physics, 1(16), 3789-3792 (English) 1999. CODEN:
PPCPFQ. ISSN: 1463-9076. Publisher: Royal Society of Chemistry.

AB A silicon-contg. poly(p-phenylenevinylene) deriv.,
poly[2,5-bis(butyldimethylsilyl)-1,4-phenylenevinylene] (BS-PPV),
was synthesized via the Gilch reaction. The polymer is fully soln.
processable with high thermal stability. The UV-visible absorption
and fluorescent emission spectra demonstrate that BS-PPV is a
promising green emissive material for light-emitting device
application. Cyclic voltammetric measurements indicate that it can
be reversibly n-doped and irreversibly p-doped with the onset oxidn.
and redn. potentials of 1.16 and -1.81 V, resp. The HOMO and LUMO
energy levels of BS-PPV are 5.56 and 2.59 eV, resp. Single layer
devices with the configuration ITO/BS-PPV/Al were fabricated, which
showed a turn-on voltage of 6 V and intense green light was obsd. at
.apprx.7.5 V The performance is better than that of devices
fabricated with other silicon-contg. PPV-based polymers.

IT 247262-62-0P
(synthesis of monomer for prepn. of green photoluminescent
silicon-contg. poly(p-phenylenevinylene))

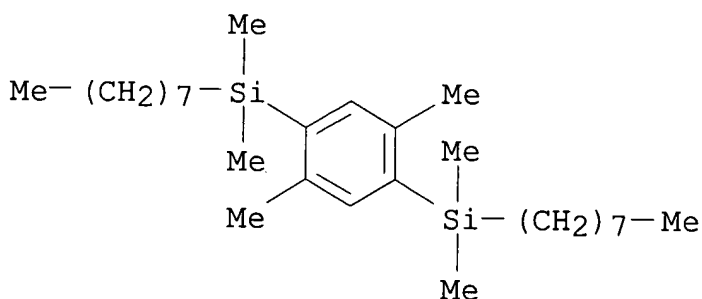
RN 247262-62-0 HCA

CN Silane, (2,5-dimethyl-1,4-phenylene)bis[butyldimethyl- (9CI) (CA
INDEX NAME)



CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 76

- IT Electronic device fabrication
(fabrication of single **layer** light-emitting diodes with ITO/BS-PPV/Al configuration)
- IT **247262-62-0P** 247262-63-1P
(synthesis of monomer for prepn. of green photoluminescent silicon-contg. poly(p-phenylenevinylene))
- L51 ANSWER 7 OF 23 HCA COPYRIGHT 2004 ACS on STN
130:359179 Synthetic method of soluble PPV derivatives having two silyl groups and light-emitting devices using the same. Hwang, Do Hoon; Jung, Sang Don; Do, Lee Mi; Zyung, Tae Hyoung; Lee, Hyang Mok; Choi, Kang Hoon (Electronics and Telecommunications Research Institute, S. Korea). U.S. US 5909038 A **19990601**, 6 pp. (English).
CODEN: USXXAM. APPLICATION: US 1998-141552 19980828. PRIORITY: KR 1997-49804 19970929.
- AB Electroluminescent devices comprising a semitransparent electrode, a hole-transporting **layer**, a polymer **emissive layer**, an electron-transporting layer and a metal electrode sequentially formed on a substrate are described in which the polymer **emissive layer** comprises poly[2,5-bis(dimethyloctylsilyl)-1,4-phenylene vinylene] (BDMOS-PPV). The polymer is easily dissolved in common org. solvents and shows a measured abs. photoluminescence quantum efficiency higher than that of the conventional polyphenylene vinylenes.
- IT **225098-95-3P**
(light-emitting devices with poly[2,5-bis(dimethyloctylsilyl)-1,4-phenylene vinylene]-contg. active layers)
- RN 225098-95-3 HCA
- CN Silane, (2,5-dimethyl-1,4-phenylene)bis[dimethyloctyl- (9CI) (CA INDEX NAME)]



- IC ICM H01L033-00
ICS H01L035-24; H01L051-00
- NCL 257103000
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

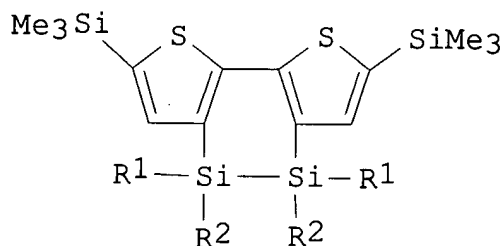
IT 221179-95-9P **225098-95-3P**

(light-emitting devices with poly[2,5-bis(dimethyloctylsilyl)-1,4-phenylene vinylene]-contg. active layers)

L51 ANSWER 8 OF 23 HCA COPYRIGHT 2004 ACS on STN

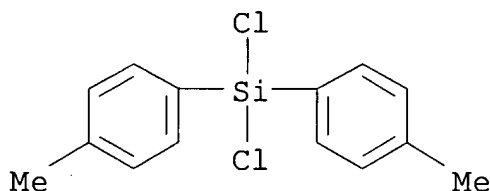
130:267490 Synthesis and Optical, Electrochemical, and Electron-Transporting Properties of Silicon-Bridged Bithiophenes. Ohshita, Joji; Nodono, Mitsunori; Kai, Hiroyuki; Watanabe, Tsuguo; Kunai, Atsutaka; Komaguchi, Kenji; Shiotani, Masaru; Adachi, Akira; Okita, Koichi; Harima, Yutaka; Yamashita, Kazuo; Ishikawa, Mitsuo (Department of Applied Chemistry Faculty of Engineering, Hiroshima University, Higashi-Hiroshima, 739-8527, Japan). Organometallics, 18(8), 1453-1459 (English) **1999**. CODEN: ORGND7. ISSN: 0276-7333. Publisher: American Chemical Society.

GI



AB A series of bithiophene derivs., e.g. I ($R_1 = R_2 = \text{Me, Et}$; $R_1 = \text{Ph}$, $R_2 = \text{Me}$), bearing an intramol. monosilanylene or disilanylene bridge between the .beta.,.beta.'-positions were synthesized, and their properties were investigated. UV spectral and cyclic voltammetric analyses of the silicon-bridged bithiophenes indicated that they have lower lying LUMOs, relative to those for bithiophene and methylene bridged bithiophenes, probably due to .sigma.*-.pi.* interaction between the silicon atom(s) and bithiophene .pi.-orbitals, in good agreement with the results of theor. calcns. using simplified model compds. based on RHF/6-31G. The silicon-bridged bithiophenes exhibit high electron-transporting properties, and triple-layer-type electroluminescent (EL) devices, using the silicon-bridged bithiophenes, tris(8-quinolinolato)aluminum(III) complex (Alq), and N,N'-diphenyl-N,N'-di-m-tolylbiphenyl-4,4'-diamine (TPD) as the electron-transporting, emitting, and hole-transporting layers, resp., emitted strong EL.

IT 18414-38-5, Dichlorodi-p-tolylsilane
 (cyclization reaction with lithiated disilylbithiophene)
 RN 18414-38-5 HCA
 CN Silane, dichlorobis(4-methylphenyl)- (9CI) (CA INDEX NAME)



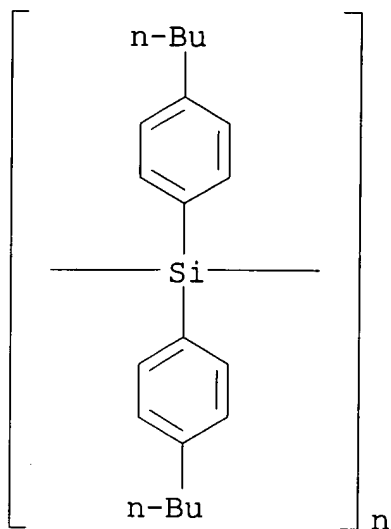
CC 29-6 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 22, 28, 72, 73, 75
 IT 80-10-4, Dichlorodiphenylsilane 4342-61-4 18414-38-5,
 Dichlorodi-p-tolylsilane 29442-41-9 56998-68-6 85590-06-3
 130785-67-0
 (cyclization reaction with lithiated disilylbithiophene)

L51 ANSWER 9 OF 23 HCA COPYRIGHT 2004 ACS on STN
 130:175061 Polysilane-based electroluminescent device emitting in (near) ultraviolet region at room temperature. Toyota, Seiji; Yuan, Chien hua; Hoshino, Satoshi; Suzuki, Hiroyuki; Fujiki, Michiya; Matsumoto, Nobuo (Nippon Telegraph and Telephone Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11026159 A2 19990129 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-186065 19970627.

AB The device has a light-emitting layer composed of a polysilane [Si(R1C6H4)(R2C6H4)]_n (n .gtoreq. 1; R1, R2 = H, alkyl, alkoxy; R1 = R2 .noteq. H) between a hole-injection electrode and an electron-injection electrode. The device shows high emission in (near) UV region.

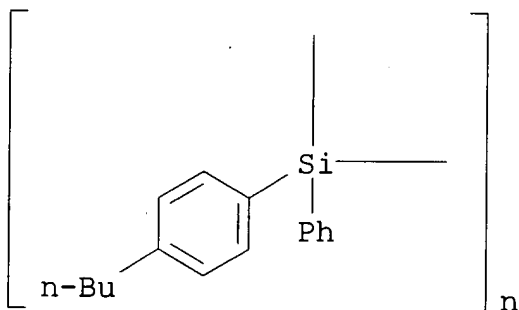
IT 107999-72-4, Poly[bis(4-butylphenyl)silylene]
 144524-07-2, Poly[(4-butylphenyl)phenylsilylene]
 (polysilane-based electroluminescent device emitting in (near) UV region at room temp.)

RN 107999-72-4 HCA
 CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



RN 144524-07-2 HCA

CN Poly[(4-butylphenyl)phenylsilylene] (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

IT **107999-72-4**, Poly[bis(4-butylphenyl)silylene]

144524-07-2, Poly[(4-butylphenyl)phenylsilylene]

220341-59-3, Poly[bis(3-propoxyphenyl)silylene]

(polysilane-based electroluminescent device emitting in (near) UV region at room temp.)

L51 ANSWER 10 OF 23 HCA COPYRIGHT 2004 ACS on STN

130:82267 Near-ultraviolet electroluminescence from polysilanes.

Suzuki, Hiroyuki; Hoshino, Satoshi; Yuan, Chien-Hua; Fujiki, Michiya; Toyoda, Seiji; Matsumoto, Nobuo (NTT Basic Research Laboratories, Morinosato Wakamniya, Atsugi, Kanagaiwa, 243-0198,

Japan). Thin Solid Films, 331(1,2), 64-70 (English) 1998.

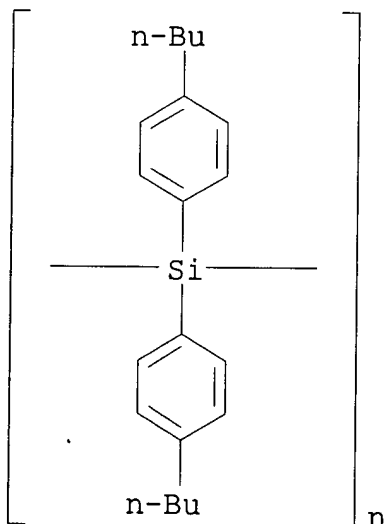
CODEN: THSFAP. ISSN: 0040-6090. Publisher: Elsevier Science S.A..

AB We report the electroluminescent (EL) characteristics of a new class of polymeric material, polysilanes, which were employed in light-emitting diodes (LEDs) as an emissive material. In contrast to the LEDs utilizing π -conjugated polymers and small mols. that have been reported to date, LEDs made from polysilanes exhibit EL in the near-UV (NUV) or UV region due to their σ -conjugation. Three types of polysilanes, dialkyl, monoalkyl-aryl and diaryl polysilanes, have been used as the emissive material, together with an indium-tin-oxide (ITO) and metal electrode for the injection of holes and electrons, resp. The LED characteristics were obsd. to depend strongly on the chem., optical and electronic properties of the emissive polysilanes. The development of emissive polysilanes has led to the successful fabrication of single-layer LEDs which emit NUV light at 407 nm (3.05 eV) with a quantum efficiency of 0.1% photons/electron at room temp.

IT 107999-72-4, Poly(bis(4-butylphenyl)silylene)
(near-UV electroluminescence from polysilanes employed in light-emitting diodes)

RN 107999-72-4 HCA

CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



CC 37-5 (Plastics Manufacture and Processing)

IT 31324-77-3, Dichloromethylphenylsilane homopolymer 76188-55-1, Poly(methylphenylsilylene) 94904-85-5, Poly(Dihexylsilane) 95999-72-7, Dibutylsilane homopolymer, sru 96228-24-9, Poly(dipentylsilylene) 97036-65-2 97036-66-3, Dipentylsilane homopolymer 97036-67-4 107999-72-4, Poly(bis(4-butylphenyl)silylene)

(near-UV electroluminescence from polysilanes employed in

light-emitting diodes)

L51 ANSWER 11 OF 23 HCA COPYRIGHT 2004 ACS on STN

129:331117 Synthesis and characterization of a new polymer containing an electron accepting perfluoro group. Jang, Min Sik; Suh, Min Chul; Shim, Sang Chul; Shim, Hong Ku (Dep. Chemistry, Korea Advanced Inst. Sci. Technol., Taejon, 305, S. Korea). Macromolecular Chemistry and Physics, 199(10), 2107-2112 (English) 1998. CODEN: MCHPES. ISSN: 1022-1352. Publisher: Huethig & Wepf Verlag.

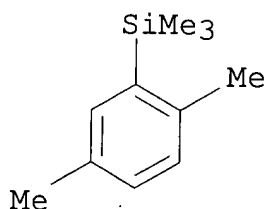
AB Poly{oxy-4,4'-octafluorobiphenyleneoxy-alt-[1,4-phenylenevinylene(3-trimethylsilyl-1,4-phenylene)vinylene-1,4-phenylene]} (PFSi) was synthesized and characterized to investigate its thermal, optical, elec., and xerog. properties. An LED (light emitting device) using PFSi as the light emitting layer exhibits max. emission for blue light, but a high turn-on voltage. The origin of the low device performance was examd. by investigating the photoconducting behavior. PFSi shows a high photocond. in the presence of electron acceptors such as 5-nitroanthranilonitrile, and the photocond. of PFSi is improved by introducing charge transport materials such as triphenylamine.

IT 17961-81-8P

(prepn. and polymn. of silyl or electron accepting perfluoro group-contg. monomers)

RN 17961-81-8 HCA

CN Silane, (2,5-dimethylphenyl)trimethyl- (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 74

IT 75-77-4P, preparation 17961-81-8P 161960-56-1P

(prepn. and polymn. of silyl or electron accepting perfluoro group-contg. monomers)

L51 ANSWER 12 OF 23 HCA COPYRIGHT 2004 ACS on STN

129:316913 Synthesis and properties of silyl-substituted PPV derivative through two different precursor polymers. Hwang, Do-Hoon; Kang, In-Nam; Lee, Jeong-Ik; Do, Lee-Mi; Chu, Hye Yong; Zyung, Taehyoung; Shim, Hong Ku (Research Department, Electronics Telecommunications Research Institute, Taejon, 305, S. Korea). Polymer Bulletin (Berlin), 41(3), 275-282 (English) 1998. CODEN: POBUDR. ISSN: 0170-0839. Publisher: Springer-Verlag.

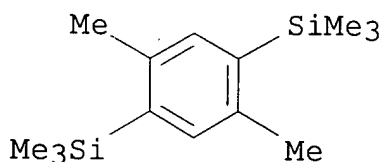
AB The authors synthesized [poly(2,5-bis(trimethylsilyl)-1,4-phenylenevinylene)] (BTMS-PPV) via 2 different precursor polymers, i.e., a water-sol. sulfonium and an org. sol. thiophenoxy precursor polymer, and compared their properties with each other. The thiophenoxy precursor polymer shows a good thermal stability and it is eliminated from 320.degree.. BTMS-PPV film through the thiophenoxy precursor route shows a blue-shifted UV-visible absorption and PL emission spectra compared with those from the water-sol. precursor route. A single-layer EL device fabricated with BTMS-PPV from the thiophenoxy precursor polymer as an **emitting layer** shows the threshold voltage of 20 V and the emission max. at .apprxeq.545 nm. The external quantum efficiency of the device is greater than 6.0 .times. 10⁻⁴% photons per electron in air and room temp. condition.

IT **31825-46-4P**

(prepn. and polymn. of silyl-substituted xylene deriv. monomer)

RN 31825-46-4 HCA

CN Silane, (2,5-dimethyl-1,4-phenylene)bis[trimethyl- (9CI) (CA INDEX NAME)



CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 73

IT **31825-46-4P** 161960-55-0P

(prepn. and polymn. of silyl-substituted xylene deriv. monomer)

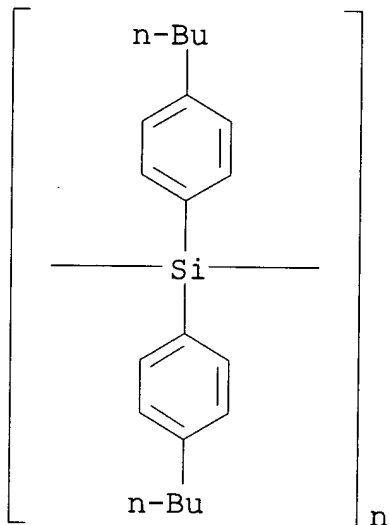
L51 ANSWER 13 OF 23 HCA COPYRIGHT 2004 ACS on STN

128:121402 Room-temperature near-ultraviolet electroluminescence from a linear silicon chain. Yuan, Chien-Hua; Hoshino, Satoshi; Toyoda, Seiji; Suzuki, Hiroyuki; Fujiki, Michiya; Matsumoto, Nobuo (NTT Basic Research Laboratories, Atsugi, Kanagawa, 243-01, Japan). Applied Physics Letters, 71(23), 3326-3328 (English) 1997. CODEN: APPLAB. ISSN: 0003-6951. Publisher: American Institute of Physics.

AB Single-layer light **emitting** diodes (LEDs) were fabricated using poly[bis(p-butylphenyl)silane] as the **emissive layer**. An efficient and stable electroluminescence with a max. at 407 nm was obsd. at room temp. under a forward elec. field >6 .times. 10⁵ V/cm. The coincidence of electroluminescence with photoluminescence suggests the origin of the electroluminescence in an excited Si chain segment. The high external quantum efficiency (0.1 photons/electron), narrow emission

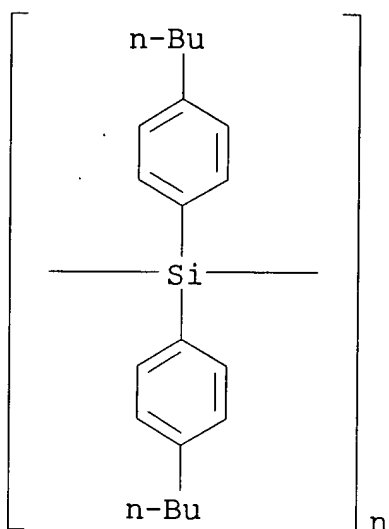
(full width at half max.=15 nm), improved operating stability, and good soly. in org. solvents provide the possibility of using polysilanes for UV LEDs.

- IT 107999-72-4, Poly[bis(4-butylphenyl)silylene]
 (room-temp. near-UV electroluminescence and optical properties of polymer with linear silicon chains and its application in LEDs)
 RN 107999-72-4 HCA
 CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
 IT 107999-72-4, Poly[bis(4-butylphenyl)silylene]
 (room-temp. near-UV electroluminescence and optical properties of polymer with linear silicon chains and its application in LEDs)
 L51 ANSWER 14 OF 23 HCA COPYRIGHT 2004 ACS on STN
 127:183108 Near ultraviolet light- or ultraviolet-light-emitting electroluminescent device. Suzuki, Hiroyuki (Nippon Telegraph and Telephone Corp., Japan). Jpn. Kokai Tokkyo Koho JP 09202878 A2 19970805 Heisei, 8 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1996-30119 19960125.
 AB The device has a polysilane light-emitting layer between a hole-injection electrode and an electron-injection electrode. The device is useful as small light sources for optical recording disks.
 IT 107999-72-4, Poly[bis(4-butylphenyl)silylene]
 111939-61-8
 (near UV light- or UV-light-emitting electroluminescent device having polysilane light-emitting layer)
 RN 107999-72-4 HCA

CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



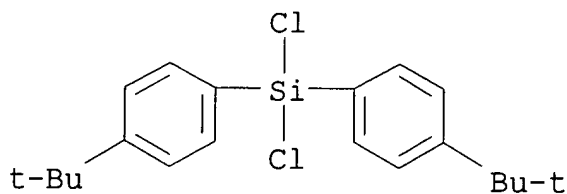
RN 111939-61-8 HCA

CN Silane, dichlorobis[4-(1,1-dimethylethyl)phenyl]-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 88794-44-9

CMF C20 H26 Cl2 Si



IC ICM C09K011-06

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

IT Electroluminescent devices

(near UV light- or UV-light-emitting electroluminescent device
having polysilane light-emitting layer)

IT Polysilanes

(near UV light- or UV-light-emitting electroluminescent device
having polysilane light-emitting layer)

IT 31324-77-3, Dichloromethylphenylsilane homopolymer 76188-55-1,

Dichloromethylphenylsilane homopolymer, sru 88002-81-7,
Dichloromethylpropylsilane homopolymer 88002-83-9,
Dichlorohexylmethylsilane homopolymer 88002-84-0,
Dichlorododecylmethylsilane homopolymer 88002-85-1,
Dichlorocyclohexylmethylsilane homopolymer 88003-13-8,
Dichloromethylpropylsilane homopolymer, sru 88003-15-0,
Dichlorohexylmethylsilane homopolymer, sru 88003-16-1,
Dichlorocyclohexylmethylsilane homopolymer, sru 88018-84-2,
Poly(dodecylmethylsilylene) 96743-40-7, Poly[(4-methoxyphenyl)methylsilylene] 97464-14-7, Dichloro-p-methoxyphenylmethylsilane homopolymer 107999-72-4,
Poly[bis(4-butylphenyl)silylene] 111939-61-8 116102-71-7
116102-81-9, Poly[bis(4-butoxyphenyl)silylene]
(near UV light- or UV-light-emitting electroluminescent device
having polysilane light-emitting layer)

L51 ANSWER 15 OF 23 HCA COPYRIGHT 2004 ACS on STN

126:293957 Highly efficient green light-emitting diodes with aluminum cathode. Hwang, Do-Hoon; Kim, Sung Tae; Shim, Hong-Ku; Holmes, Andrew B.; Moratti, Stephen C.; Friend, Richard H. (University Chemical Laboratory, Department of Chemistry, Lensfield Road, Cambridge, CB2 1EW, UK). Synthetic Metals, 84(1-3), 615-618 (English) 1997. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier.

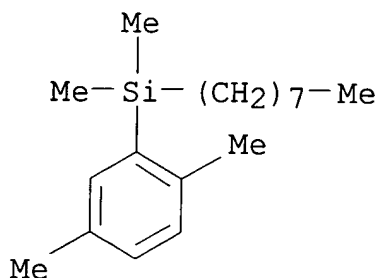
AB A novel silyl-substituted solvent processible poly(1,4-phenylenevinylene) (PPV) deriv., poly(2-dimethyloctylsilyl-1,4-phenylenevinylene) (DMOS-PPV) and copolymers of DMOS-PPV and poly(2-methoxy-5-ethylhexyloxy-1,4-phenylenevinylene) (MEH-PPV) were synthesized by the dehydrohalogenation route, and the light-emitting properties of these polymers were studied. Electroluminescent devices were fabricated with these polymers as **emitting layers**, and ITO and Al as anode and cathode, resp. A single layer device using DMOS-PPV as the **emissive layer** showed 0.2% internal quantum efficiency. Single layer devices using the copolymers showed internal quantum efficiencies between 0.1-0.02% depending on the copolymer compns.

IT 184687-89-6P

(in prepn. of dimethyloctylsilylbis(bromomethyl)benzene monomer)

RN 184687-89-6 HCA

CN Silane, (2,5-dimethylphenyl)dimethyloctyl- (9CI) (CA INDEX NAME)



CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 73

IT 184687-89-6P
(in prepn. of dimethyloctylsilylbis(bromomethyl)benzene monomer)

L51 ANSWER 16 OF 23 HCA COPYRIGHT 2004 ACS on STN

126:251781 Synthesis and characterization of functional polymer films containing trimethylsilyl groups. Shim, Hong Ku; Jang, Min Sik; Hwang, Do Hoon (Department Chemistry, Korea Advanced Institute Science Technology, Taejon, 305, S. Korea). Macromolecular Chemistry and Physics, 198(2), 353-361 (English) 1997.

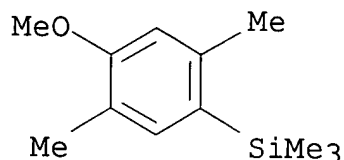
CODEN: MCHPES. ISSN: 1022-1352. Publisher: Huethig & Wepf.

AB Poly(2-methoxy-5-trimethylsilyl-1,4-phenylenevinylene) (PMTSPV) was prep'd. as thin film via the water-sol. precursor route, and its elec. and optical properties were studied. The cond. values of drawn (L/L₀ = 7) and undrawn FeCl₃-doped PMTSPV films were 0.1 and 0.5 Scm⁻¹, resp. An electroluminescence device was fabricated with PMTSPV as an **emitting layer**, and ITO and Al as hole-injection and electron-injecting electrodes, resp. The threshold voltage of the device was .apprxeq. 4 V, and the emission max. was at .apprxeq. 560 nm, with quantum efficiency of 2 .times. 10⁻⁴% (emitted photons per electron), which corresponds to yellow light emission. The .chi.(3) for the PMTSPV film was investigated by using the third-harmonic generation method at 1907 nm fundamental wavelength, and was 1.0 .times. 10⁻¹¹ esu.

IT 188412-58-0P
(monomer intermediate; prepn. and characterization of poly(phenylenevinylenes) contg. trimethylsilyl groups)

RN 188412-58-0 HCA

CN Silane, (4-methoxy-2,5-dimethylphenyl)trimethyl- (9CI) (CA INDEX NAME)



CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 73

IT **188412-58-0P** 188412-59-1P
(monomer intermediate; prepn. and characterization of
poly(phenylenevinylenes) contg. trimethylsilyl groups)

L51 ANSWER 17 OF 23 HCA COPYRIGHT 2004 ACS on STN

125:342989 Lithographic printing original plate having polysilane
photosensitive layer for printing plate. Yokoyama, Masaaki; Ogawa,
Tadashi; Enokida, Toshio (Toyo Ink Mfg Co, Japan). Jpn. Kokai
Tokkyo Koho JP 08227157 A2 **19960903** Heisei, 8 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-33402 19950222.

AB The original plate has a photosensitive layer comprising an org.
polysilane having F-contg. hydrocarbonyl groups. The printing plate
is obtained by **irradiating** the photosensitive
layer of the original plate and a film with light for
photolysis of the polysilane and removing the irradiated part with a
solvent. The plate showed good smudge resistance and high
ink-receiving property.

IT **183790-21-8 183790-23-0**
(lithog. printing original plate having fluorine-contg.
polysilane photosensitive layer)

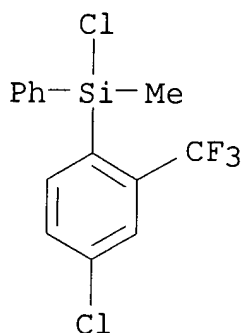
RN 183790-21-8 HCA

CN Silane, chloro[4-chloro-2-(trifluoromethyl)phenyl]methylphenyl-,
homopolymer (9CI) (CA INDEX NAME)

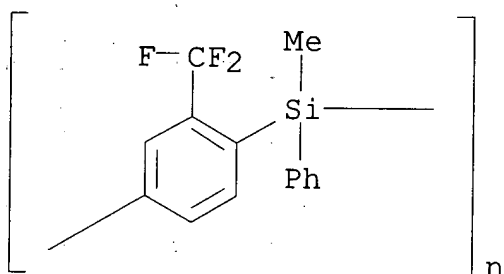
CM 1

CRN 183790-20-7

CMF C14 H11 Cl2 F3 Si



RN 183790-23-0 HCA
 CN Poly[(methylphenylsilylene)[2-(trifluoromethyl)-1,4-phenylene]]
 (9CI) (CA INDEX NAME)



IC ICM G03F007-075
 ICS G03F007-00; G03F007-039
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38
 IT 149643-46-9, Poly[phenyl(trifluoromethyl)silylene] 169116-96-5
 183673-39-4, Poly[methyl(trifluoromethoxy)silylene] 183673-43-0
 183790-11-6 183790-15-0 183790-17-2, Poly[bis(3-
 fluorophenyl)silylene] **183790-21-8 183790-23-0**
 183790-26-3 183790-29-6 183790-31-0 183790-37-6 183790-39-8
 183790-43-4 183909-41-3
 (lithog. printing original plate having fluorine-contg.
 polysilane photosensitive layer)

L51 ANSWER 18 OF 23 HCA COPYRIGHT 2004 ACS on STN
 124:355297 Green electroluminescent diode from poly(2-trimethylsilyl-1,4-
 phenylenevinylene). Hwang, Do-Hoon; Kang, In-Nam; Jang, Min-Sik;
 Shim, Hong-Ku; Zyung, Tachyoung (Dep. Chem., Korea Advanced Inst.
 Sci. Technol., Taejon, 305-701, S. Korea). Polymer Bulletin
 (Berlin), 36(3), 383-90 (English) **1996**. CODEN: POBUDR.
 ISSN: 0170-0839. Publisher: Springer.

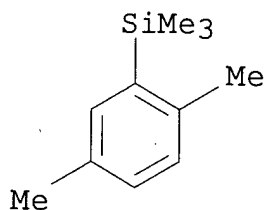
AB Poly(2-trimethylsilyl-1,4-phenylenevinylene) (TMS-PPV) was synthesized through a org.-sol. precursor polymer, and its properties were characterized by UV-visible, FT-IR spectroscopy and thermal anal. Electroluminescent devices were fabricated with TMS-PPV as an **emitting layer**, and ITO and Al as pos. and neg. electrodes, resp. Threshold voltage of the device was .apprxeq.15 V and the emission max. .apprxeq.540 nm, with a quantum efficiency of 3.5 .times. 10-4% photons per electron in air at room temp.

IT 17961-81-8

(intermediate; in prepn. of poly(2-trimethylsilyl-1,4-phenylenevinylene for green electroluminescent diodes)

RN 17961-81-8 HCA

CN Silane, (2,5-dimethylphenyl)trimethyl- (9CI) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 35

IT 17961-81-8

(intermediate; in prepn. of poly(2-trimethylsilyl-1,4-phenylenevinylene for green electroluminescent diodes)

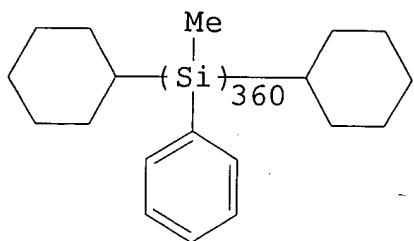
L51 ANSWER 19 OF 23 HCA COPYRIGHT 2004 ACS on STN

117:121497 Electrophotographic process using photoreceptors with polysilane layer. Sakai, Kiyoshi; Sakakibara, Teigo; Tanaka, Hisami (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 03245153 A2

19911031 Heisei, 13 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1990-41202 19900223.

GI



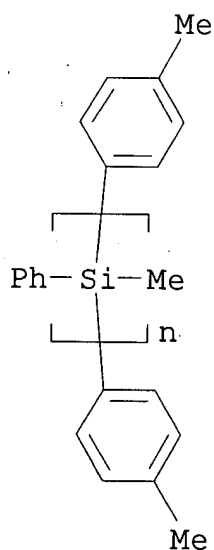
AB The title process, using electrophotog. photoreceptors with a polysilane-contg. surface **layer**, comprises **irradn** . with light contg. the light which can be absorbed by the polysilane. Thus, a photoreceptor with a charge-generating layer contg. chloroaluminum phthalocyanine and a charge-transporting layer contg. I (λ_{max} 347 nm) was used in a copier (light source .gtoreq.300 nm) to obtain high quality images in continuously repeated copying.

IT **138873-56-0**

(electrophotog. photoreceptor charge-transporting layer using)

RN 138873-56-0 HCA

CN Poly(methylphenylsilylene), .alpha.,.omega.-bis(4-methylphenyl)-(9CI) (CA INDEX NAME)



IC ICM G03G005-07

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 88993-02-6D, undecyl-terminated **138873-56-0** 138873-57-1
138873-60-6 142497-29-8 143256-30-8

(electrophotog. photoreceptor charge-transporting layer using)

L51 ANSWER 20 OF 23 HCA COPYRIGHT 2004 ACS on STN

112:218771 Mixed phthalo-naphthalocyanines and thin **radiation**
-sensitive **coating films** containing them.

Albert, Bernhard; Kuppelmaier, Harald; Wagenblast, Gerhard (BASF
A.-G., Fed. Rep. Ger.). Eur. Pat. Appl. EP 285965 A2

19881012, 11 pp. DESIGNATED STATES: R: CH, DE, FR, GB, IT,
LI, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1988-105023
19880329. PRIORITY: DE 1987-3711762 19870407.

GI For diagram(s), see printed CA Issue.

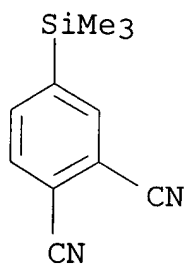
AB The title compds. I [M = Cu, Ni, Mn, Fe, Zn, Pb, Bi, 2 H, ClAl,
Cl₂Si, VO; Pc = benzoanellated phthalocyanine residue with 1-3
isoindole subunits; R₁ (a substituent on a nonbenzoanellated
isoindole subunit) = (un)substituted C1-20 alkyl, (un)substituted
Ph, C1-22 alkoxy, halogen, SiR₃; R₃ = C1-6 alkyl; R₂ (a substituent
on a benzoanellated isoindole subunit) = R₁; a (no. of
nonbenzoanellated isoindole subunits) = 1-3; m = 0-4; n = 0-6],
useful in IR -sensitive thin - film recording materials, are prepd.
o-Naphthalodinitrile 0.25, 4-tert-octylphthalonitrile 0.03, and V205
0.0625 mol were mixed together and heated at 200.degree. for 2 h and
250.degree. for 3 h, producing a tert-octyl-substituted title compd.
having R_f 0.17 (PhMe eluent) on 0.2-mm-thick Al₂O₃ chromatog.
plates.

IT **18019-77-7DP**, reaction products with naphthalodinitriles and
metal compds.

(manuf. of, as dye for optical recording materials)

RN 18019-77-7 HCA

CN 1,2-Benzenedicarbonitrile, 4-(trimethylsilyl)- (9CI) (CA INDEX
NAME)



IC ICM C09B067-22

ICS C09B047-04; C07D487-22; G03G005-06

ICI C07D487-22, C07D259-00, C07D209-00

CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)

Section cross-reference(s): 28, 74

IT 1314-62-1DP, Vanadium oxide (V205), reaction products with

naphthalonitriles and phthalonitriles 4655-61-2DP, reaction products with phthalonitriles and metal compds. 7446-70-0DP, Aluminum chloride (AlCl₃), reaction products with naphthalonitriles and phthalonitriles 7718-98-1DP, Vanadium chloride (VCl₃), reaction products with naphthalonitriles and phthalonitriles **18019-77-7DP**, reaction products with naphthalodinitriles and metal compds. 22856-30-0DP, 2,3-Naphthalenedicarbonitrile, reaction products with phthalonitriles and metal compds. 32703-80-3DP, reaction products with naphthalodinitriles and metal compds. 32703-82-5DP, reaction products with phthalonitriles and metal compds. 116965-15-2DP, reaction products with naphthalodinitriles and metal compds. 126131-04-2P 126131-05-3P 126131-06-4P 126131-07-5P 126131-08-6P 126131-09-7P 126131-10-0P 126131-11-1P 126131-12-2P 126131-13-3P 126154-02-7P 126183-46-8P 126183-47-9P 126183-48-0P 126368-65-8P 126368-66-9P 126420-29-9P 127248-71-9P 127248-72-0P 127248-73-1P

(manuf. of, as dye for optical recording materials)

L51 ANSWER 21 OF 23 HCA COPYRIGHT 2004 ACS on STN

105:153646 Photolysis of polymeric organosilicon systems. III.

Synthesis and photochemical behavior of polysiloxanes containing phenyldisilanyl units. Nate, Kazuo; Ishikawa, Mitsuo; Imamura, Naoya; Murakami, Yoshihide (Prod. Eng. Res., Hitachi Ltd., Yokohama, 244, Japan). Journal of Polymer Science, Part A: Polymer Chemistry, 24(7), 1551-63 (English) **1986**. CODEN: JPACEC. ISSN: 0887-624X.

AB The synthesis and photochem. behavior of 3 types of polysiloxanes contg. phenyldisilanyl units as chromophore were reported. Irradn. of thin liq. films of the polymer (I) [104671-36-5] prepd. from copolymn. of octamethylcyclotetrasiloxane and 1,3,5-triphenyl-1,3,5-tris(trimethylsilyl)cyclotrisiloxane with a 500-W Xe-Hg lamp afforded transparent solid films which are insol. in common org. solvents. Similar irradn. of thin liq. films of polysiloxane (II) contg. both phenyldisilanyl units and vinyl groups resulted in formation of crosslinked solid films. When thick films of the polymers I and II were irradiated with a Xe-Hg lamp, crosslinking occurred only on the surface of the films, but the inside remained a liq. Irradn. of the films prepd. from the polysiloxane involving the phenyldisilanyl units and butenyl groups, however, gave crosslinked solid films, whatever thickness of the films. The mechanism of photochem. induced crosslinking of the copolymers is discussed on the basis of the results obtained from the photolysis of 1,1-bis(trimethylsiloxy)-1-phenyl(trimethyl)disilane [86879-54-1] as a model compd.

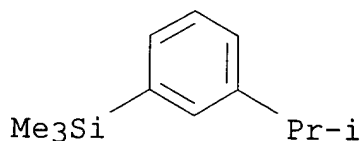
IT **18027-96-8P 18027-97-9P 104595-41-7P 104595-42-8P**

(formation of, in photolysis of octamethylcyclotetrasiloxane-

triphenyltris(trimethylsilyl)cyclotrisiloxane copolymer in
isopropylbenzene)

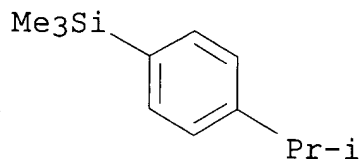
RN 18027-96-8 HCA

CN Silane, trimethyl[3-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



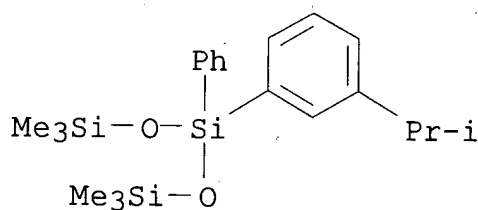
RN 18027-97-9 HCA

CN Silane, trimethyl[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



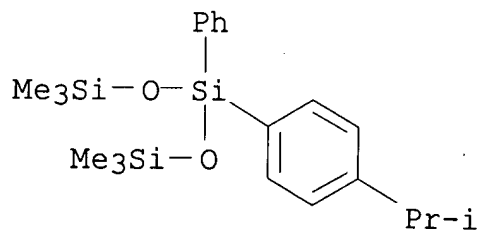
RN 104595-41-7 HCA

CN Trisiloxane, 1,1,1,5,5,5-hexamethyl-3-[3-(1-methylethyl)phenyl]-3-phenyl- (9CI) (CA INDEX NAME)



RN 104595-42-8 HCA

CN Trisiloxane, 1,1,1,5,5,5-hexamethyl-3-[4-(1-methylethyl)phenyl]-3-phenyl- (9CI) (CA INDEX NAME)



CC 35-8 (Chemistry of Synthetic High Polymers)

IT 18027-96-8P 18027-97-9P 104595-41-7P

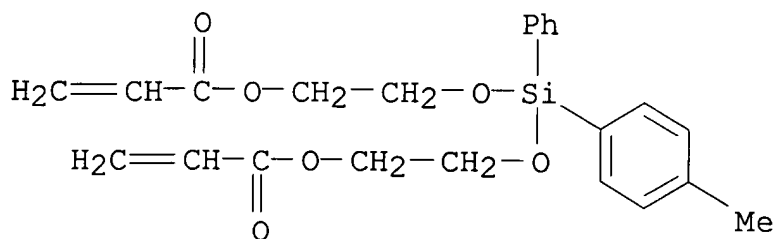
(formation of, in photolysis of octamethylcyclotetrasiloxane-triphenyltris(trimethylsilyl)cyclotrisiloxane copolymer in isopropylbenzene)

105:62356 Coating substrates. Davidson, Robert Stephen; Ellis, Richard John (Wiggins Teape Group Ltd., UK). PCT Int. Appl. WO 8600084 A1 **19860103**, 62 pp. DESIGNATED STATES: W: AU, DK, FI, JP, NO, US; RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1985-GB250 19850607. PRIORITY: GB 1984-14705 19840608.

IT 103104-97-8
(coatings, electron beam-curable, for paper)

CN 2-Propenoic acid, [(4-methylphenyl)phenylsilylene]bis(oxy-2,1-ethanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

CRN 103104-96-7
CMF C23 H26 O6 Si



IC ICM C09D003-80
ICS D21H001-34; C08F220-00; C08F230-00

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 35, 37, 43

IT Abrasion-resistant materials
(coatings, electron beam-curable, alkylmetal
acrylate polymer, for paper)

IT Abrasion-resistant materials
(coatings, electron-beam-curable, acrylic
polymers, for paper)

IT 21843-46-9D, polymers with polyester acrylates 25034-61-1
103017-79-4 103017-81-8 103017-83-0 103017-85-2 103017-87-4
103017-89-6 103052-54-6 103052-55-7 103104-71-8 103104-73-0
103104-75-2 103104-77-4 103104-79-6 103104-81-0 103104-83-2
103104-85-4 103104-87-6 103104-89-8 103104-91-2 103104-93-4
103104-95-6 103104-97-8 103104-99-0 103105-01-7
103105-03-9 103105-04-0 103105-06-2 103105-07-3 103105-08-4
103105-09-5 103105-11-9 103105-13-1 103105-15-3 103105-17-5
103105-19-7 103105-21-1 103105-23-3 103105-25-5 103105-27-7
103105-28-8 103105-30-2 103105-32-4 103105-34-6 103105-35-7
103105-37-9 103105-39-1 103105-41-5 103105-42-6 103105-43-7
103105-44-8 103105-45-9 103133-53-5 103133-55-7 103133-57-9
103133-58-0 103183-00-2 103432-69-5 104647-45-2
(coatings, electron beam-curable, for paper)

IT 13331-52-7P 18292-15-4P 21843-46-9P 23519-62-2P 24685-66-3P
62480-06-2P 88591-35-9P 103017-78-3P 103017-80-7P
103017-82-9P 103017-86-3P 103017-88-5P 103104-72-9P
103104-74-1P 103104-76-3P 103104-78-5P 103104-80-9P
103104-82-1P 103104-84-3P 103104-86-5P 103104-88-7P
103104-90-1P 103104-92-3P 103104-94-5P 103104-98-9P
103105-00-6P 103105-02-8P 103105-05-1P 103105-10-8P
103105-14-2P 103105-16-4P 103105-18-6P 103105-20-0P
103105-24-4P 103105-26-6P 103105-29-9P 103105-31-3P
103105-36-8P 103105-38-0P 103105-40-4P 103133-52-4P
103133-54-6P 103133-56-8P 103140-98-3P 103140-99-4P
103141-00-0P 103141-01-1P 103141-02-2P 103141-03-3P
103141-04-4P 103141-05-5P 103141-06-6P 103141-07-7P
103174-15-8P 103237-72-5P 103903-92-0P
(manuf. of, for electron beam-curable coatings
)

L51 ANSWER 23 OF 23 HCA COPYRIGHT 2004 ACS on STN
92:32414 Controlled formation of thin polymer films by
electron irradiation. Elovikov, S. S.; Novozhilov, V. P.;
Ushakov, N. V. (Dep. Phys., Moscow State Univ., Moscow, 117234,
USSR). Thin Solid Films, 62(3), 303-16 (English) 1979.
CODEN: THSFAP. ISSN: 0040-6090.

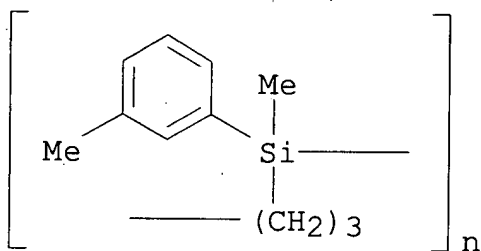
AB Thin polymer films were produced by electron bombardment in the presence of the monomer, and their elec. properties were detd. by using both planar and sandwich-type structures. The possibility of introducing impurity metal atoms into the polymer structure was also studied, by using Ag as the impurity in organosilicon polymer films. The conditions of electron bombardment have a pronounced effect on the elec. cond. For very high **beam** currents, the **film** is highly disordered and exhibits elec. cond. in certain polymers based on silacyclobutane. The elec. cond. can be increased greatly by doping with Ag to introduce addnl. impurity levels into the org. structure.

IT 72315-60-7

(phys. properties of, electron irradiation effect on)

RN 72315-60-7 HCA

CN Poly[[methyl(3-methylphenyl)silylene]-1,3-propanediyl] (9CI) (CA INDEX NAME)



CC 76-1 (Electric Phenomena)

Section cross-reference(s): 35

ST polymer **film** electron **irradn**; electron irradiation formation polymer; cond electron irradiation polymer; silver doped polymer cond

IT Electron beam, chemical and physical effects (polymer **film** formation by **irradn**. with, elec. cond. in relation to conditions of)

IT 9016-00-6 57084-40-9 72315-60-7 72315-61-8 (phys. properties of, electron irradiation effect on)

=> d his 152-

FILE 'HCA'

L52 40473 S OPTIC?(2A) (IMAGE# OR IMAGEAB? OR IMAGAB? OR IMAGIB? OR
L53 464499 S SEMICONDUCT? OR SEMI(2A) (COND# OR CONDUCT?)
L54 24037 S NANOSTRUCT? OR NANO(2A)STRUCT?
L55 88322 S (ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO OR
L56 14 S L13 AND (L52 OR L53 OR L54 OR L55 OR 74/SC,SX)

L57 13 S L14 AND L52
 L58 36 S L14 AND L53
 L59 3 S L14 AND L54
 L60 59 S L14 AND L55
 L61 177 S L14 AND 74/SC, SX
 L62 4 S L58 AND L60
 L63 8 S L58 AND L61
 L64 12 S L60 AND L61
 L65 6 S L56 NOT (L49 OR L50 OR L51)
 L66 6 S L65 AND (1900-2000/PY OR 1900-2000/PRY)
 L67 29 S (L57 OR L59 OR L62 OR L63 OR L64) NOT (L49 OR L50 OR L5
 L68 23 S L67 AND (1900-2000/PY OR 1900-2000/PRY)

=> d 166 1-6 cbib abs hitstr hitind

L66 ANSWER 1 OF 6 HCA COPYRIGHT 2004 ACS on STN

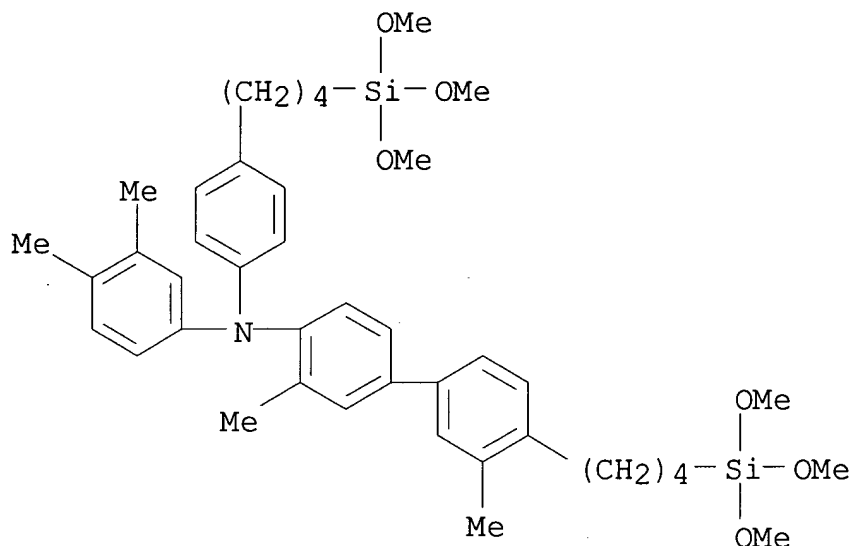
131:344216 Electrophotographic photoreceptor having crosslinked hard
 uppermost layer and electrophotographic apparatus using the
 photoreceptor. Kozeki, Kazuhiro; Kamisaka, Tomozumi; Kojima, Fumio
 (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11316468.
 A2 19991116 Heisei, 83 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1998-265392 19980918. PRIORITY: JP 1998-55588
 19980306.

AB The photoreceptor has a charge-transporting layer, charge-generating
 layer, or protective layer as the uppermost layer which comprises a
 crosslinked hard film composed of (1) a compd. G1DF (G1 = Si-contg.
 glassy network subunit; D = flexible org. subunit; F = photoelec.
 subunit), Si-contg. fine particles, and a crosslinkable compd. or
 (2) a compd. G2DF [G2 = Si(R1)3-a(OR2)a; R1 = H, alkyl,
 (substituted) aryl; R2 = H, alkyl, trialkylsilyl; a = 1-3] and a
 crosslinkable compd. having .gtoreq.2 functional groups represented
 by -Si(R3)3-b(OR4)b [R3 = H, alkyl, (substituted) aryl; R4 = H,
 alkyl, trialkylsilyl; b = 1-3]. The app. for a contact-charging
 style is also claimed. The photoreceptor shows high mech. strength
 on the surface.

IT 250243-78-8
 (electrophotog. photoreceptor having crosslinked hard film as
 uppermost layer for mech. strength)

RN 250243-78-8 HCA

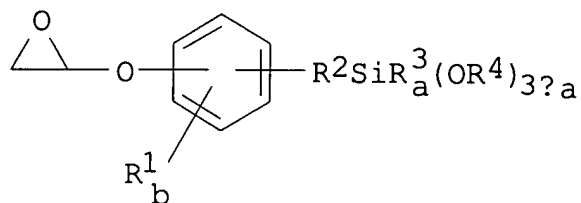
CN [1,1'-Biphenyl]-4-amine, N-(3,4-dimethylphenyl)-3,3'-dimethyl-4'-[4-
 (trimethoxysilyl)butyl]-N-[4-[4-(trimethoxysilyl)butyl]phenyl]-
 (9CI) (CA INDEX NAME)



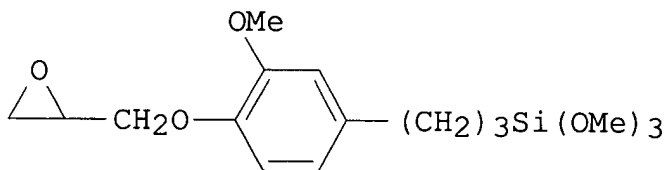
IC ICM G03G005-05
 ICS G03G005-05; G03G005-06; G03G005-147
 CC **74-3** (Radiation Chemistry, Photochemistry, and
 Photographic and Other Reprographic Processes)
 IT 1185-55-3, Methyltrimethoxysilane 7631-86-9, Silica, uses
 7631-86-9, Silica, uses 9016-00-6, Dimethyl polysiloxane
 18406-41-2 18642-96-1 31900-57-9, Dimethylsilanediol homopolymer
 52034-16-9 60354-74-7 83048-65-1 211637-80-8 220728-33-6
 220776-99-8 233281-24-8 241492-10-4 **250243-78-8**
 250243-79-9 250243-80-2 250243-84-6
 (electrophotog. photoreceptor having crosslinked hard film as
 uppermost layer for mech. strength)

L66 ANSWER 2 OF 6 HCA COPYRIGHT 2004 ACS on STN
 127:235163 Moisture-resistant epoxy resin compositions with good
 adhesion to lead frames, and **semiconductor** devices sealed
 by the cured compositions. Okuse, Satoshi; Tomiyoshi, Kazutoshi;
 Shiobara, Toshio (Shin-Etsu Chemical Industry Co., Ltd., Japan).
 Jpn. Kokai Tokkyo Koho JP 09216939 A2 **19970819** Heisei, 14
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-48138
 19960209.

GI



I



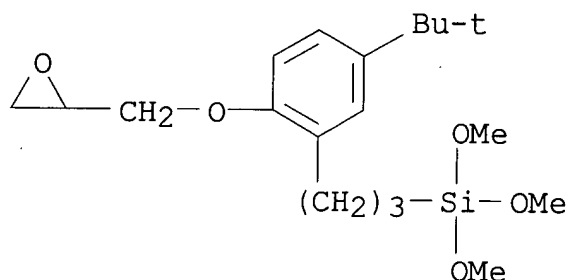
II

AB Title compns., which give cured products with low water absorption, contain phenolic resins modified with Ph glycidyl ether group-contg. silane coupling agents I [R1 = H, (un)substituted C1-6 monovalent hydrocarbyl, alkoxy, alkenyloxy, aryloxy, halo; R2 = divalent org. group; R3, R4 = (un)substituted C1-6 monovalent hydrocarbyl; a = 0-2; b = 0-4], and phenolic resins modified with HSR7SiR5a(OR6)3-a [R5, R6 = (un)substituted C1-6 monovalent hydrocarbyl; R7 = divalent org. group; a = 0-2] as curing agents. **Semiconductor** devices sealed by cured products of the above compns. are also claimed. Thus, NC 7000 (naphthalene-type epoxy resin) 53.1, XL-225-3L (phenol-aralkyl resin) modified with II 20.9, XL-225-3L modified with (MeO)3Si(CH2)3SH 19.9, BREN-S (brominated epoxy resin) 8, silica 550, Sb2O3 10, Wax E 1.5, carbon black 1.0, and Ph3P 0.8 part were melt kneaded and cured to show adhesion strength to 42 alloy 25 kg. The compn. also showed good moisture and solder crack resistance and low water absorption.

IT **188984-93-2DP**, reaction products with phenolic resins (curing agents; moisture-resistant epoxy resin compns. contg. silane coupling agent-modified phenolic resins with good adhesion to lead frames).

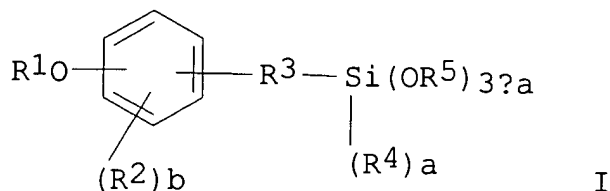
RN 188984-93-2 HCA

CN Silane, [3-[5-(1,1-dimethylethyl)-2-(oxiranylmethoxy)phenyl]propyl]trimethoxy- (9CI) (CA INDEX NAME)



- IC ICM C08G059-62
ICS H01L023-29; H01L023-31
- CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 76
- ST moisture resistance epoxy resin sealing **semiconductor**;
silane coupler modified phenolic resin crosslinker; lead frame
adhesion epoxy resin **semiconductor**; water absorption
resistance epoxy resin sealing; phenyl glycidyl alkoxy silane
modified phenolic resin; thiol contg alkoxy silane modified phenolic
resin
- IT Coupling agents
Crosslinking agents
Electronic packaging materials
Heat-resistant materials
Semiconductor materials
Water-resistant materials
(moisture-resistant epoxy resin compns. contg. silane coupling
agent-modified phenolic resins with good adhesion to lead frames)
- IT 4420-74-0DP, reaction products with phenolic resins 26834-02-6DP,
XL-225-3L, reaction products with silane coupling agents
31001-77-1DP, reaction products with phenolic resins
128192-20-1DP, NH 7000, reaction products with silane coupling
agents **188984-93-2DP**, reaction products with phenolic
resins 195211-52-0DP, reaction products with phenolic resins
(curing agents; moisture-resistant epoxy resin compns. contg.
silane coupling agent-modified phenolic resins with good adhesion
to lead frames)
- L66 ANSWER 3 OF 6 HCA COPYRIGHT 2004 ACS on STN
126:278716 Epoxy resin compositions containing silane coupler-modified
phenolic resins and **semiconductor** devices. Okuse,
Satoshi; Shiobara, Toshio (Shinetsu Chemical Industry Co., Ltd.,
Japan). Jpn. Kokai Tokkyo Koho JP 09067427 A2 **19970311**
Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1995-246872 19950831.

GI



AB Title compns. with improved adhesion and moisture resistance and low water-absorption contg. silane coupler-modified phenol resins which are prepd. by treating phenol resins with silanol esters I (R1 = glycidyl; R2 = H, C1-6 hydrocarblyl, C1-6 alkoxy, alkenyloxy, aryloxy, halo; R3 = divalent org. groups; R4-R5 = C1-6 monovalent hydrocarbon; a = 0, 1, 2; b = 0-4), and **semiconductor** devices prepd. therefrom are claimed. Thus, 38.8 parts XL-225-3L (phenol aralkyl resin) and 2 parts 2-methoxy-4-(.gamma.-trimethoxysilylpropyl)phenyl glycidyl ether were heated at 150.degree. to obtain modified phenol resin, 40.8 parts of which was roll kneaded with NC 7000 (naphthalene epoxy resin) 53.1, BREN-S (brominated epoxy resin) 8, spherical SiO2 550, Sb2O3 10, a wax 1.5, carbon black 1.0, and Ph3P 0.8 part to give a compn.

Semiconductor devices were packaged by the compn. to give flat test pieces showing 0.22% moisture absorption and 0/20 crack by solder bathing with or without pre-moistening.

IT 188984-92-1P 188984-94-3P

(epoxy resins contg. silane coupler-modified phenolic resins for packaging **semiconductor** devices with moisture resistance)

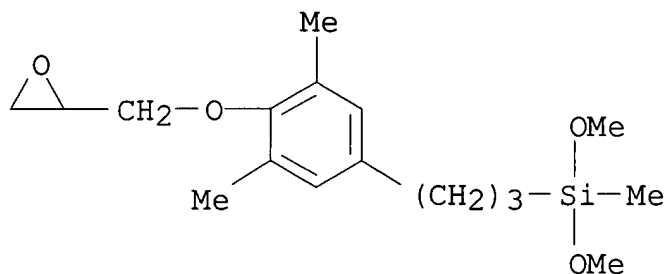
RN 188984-92-1 HCA

CN Phenol, polymer with 1,4-bis(methoxymethyl)benzene, [3-[3,5-dimethyl-4-(oxiranylmethoxy)phenyl]propyl]dimethoxymethylsilane and NC 7000 (9CI) (CA INDEX NAME)

CM 1

CRN 188984-91-0

CMF C17 H28 O4 Si



CM 2

CRN 158163-91-8

CMF Unspecified

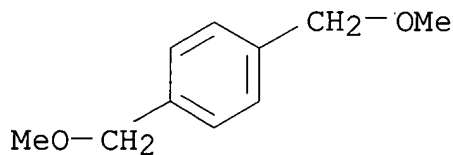
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 6770-38-3

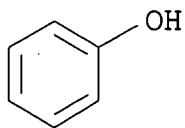
CMF C10 H14 O2



CM 4

CRN 108-95-2

CMF C6 H6 O



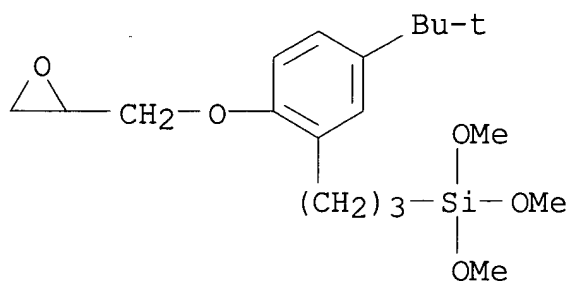
RN 188984-94-3 HCA

CN Phenol, polymer with 1,4-bis(methoxymethyl)benzene,
 [3-[5-(1,1-dimethylethyl)-2-(oxiranylmethoxy)phenyl]propyl]trimethoxysilane and NC 7000 (9CI) (CA INDEX NAME)

CM 1

CRN 188984-93-2

CMF C19 H32 O5 Si



CM 2

CRN 158163-91-8

CMF Unspecified

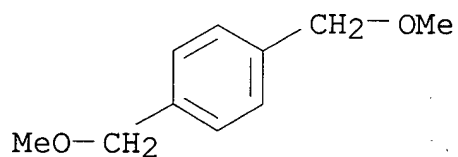
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 6770-38-3

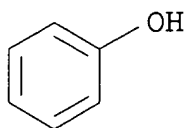
CMF C10 H14 O2



CM 4

CRN 108-95-2

CMF C6 H6 O



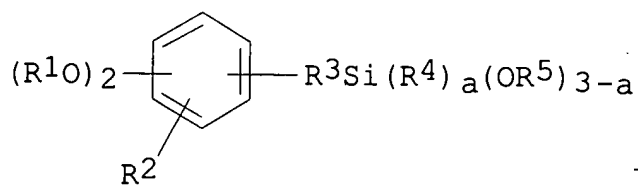
IC ICM C08G059-24

- ICS C08G059-62; H01L023-29; H01L023-31
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
- ST epoxy resin **semiconductor** device packaging; silane coupler modified phenolic resin; moisture resistance modified epoxy resin packaging; water absorption prevention epoxy resin; cracking prevention epoxy resin packaging
- IT Electronic packaging materials
(epoxy resins contg. silane coupler-modified phenolic resins for packaging **semiconductor** devices with moisture resistance)
- IT Epoxy resins, uses
(epoxy resins contg. silane coupler-modified phenolic resins for packaging **semiconductor** devices with moisture resistance)
- IT Phenolic resins, uses
(epoxy resins contg. silane coupler-modified phenolic resins for packaging **semiconductor** devices with moisture resistance)
- IT 188984-86-3P 188984-88-5P 188984-90-9P **188984-92-1P**
188984-94-3P 188984-96-5P
(epoxy resins contg. silane coupler-modified phenolic resins for packaging **semiconductor** devices with moisture resistance)

L66 ANSWER 4 OF 6 HCA COPYRIGHT 2004 ACS on STN

123:145642 Epoxy resin compositions containing silane coupling agents and **semiconductor** devices sealed with them. Shiobara, Toshio; Futatsumori, Koji; Okuse, Satoshi; Aoki, Takayuki; Wakao, Myuki; Ino, Shigeki (Shinetsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 06345847 A2 **19941220** Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-163115 19930607.

GI



- AB The title compns., giving cured products with low hygroscopicity, good adhesion to frames, and good crack resistance, contain epoxy resins, curing agents, inorg. fillers, and coupling agents I (R¹ = H, glycidyl; R² = H, C1-6 hydrocarbyl; R³ = divalent org. group;

R4-5 = C1-6 hydrocarbyl; a = 0-2). A heat-curable compn. was prepd. from NC 7000 (epoxy resin) 53.1, NH 7000 (phenolic resin) 19.4, XL 225 3L (phenolic resin) 19.4, BERN-S (brominated epoxy resin) 8, I [R1 = glycidyl; R2 = H; R3 = (CH₂)₃; R5 = Me; a = 0] 2, spherical silica 550, Sb2O₃ 10, Wax E 1.5, carbon black 1.0, and Ph3P 0.8 part.

IT 166413-08-7P

(potting compns. for semiconductor devices)

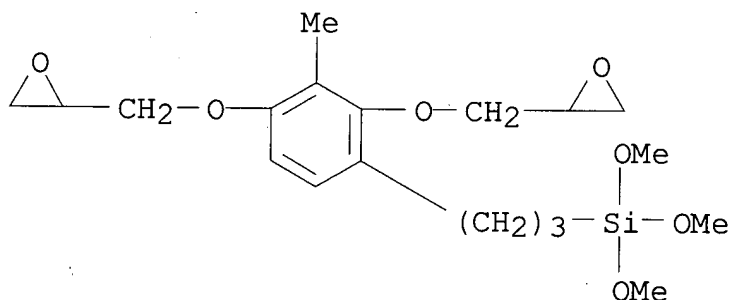
RN 166413-08-7 HCA

CN Formaldehyde, polymer with 1,4-bis(methoxymethyl)benzene, BREN-S, methylphenol, naphthalenol, NC 7000, phenol and trimethoxy[3-[3-methyl-2,4-bis(oxiranylmethoxy)phenyl]propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 161001-64-5

CMF C19 H30 O7 Si



CM 2

CRN 158163-91-8

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 93195-67-6

CMF Unspecified

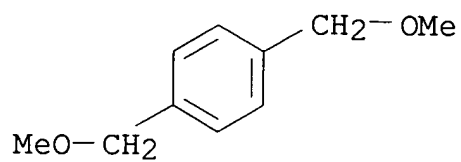
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 6770-38-3

CMF C10 H14 O2

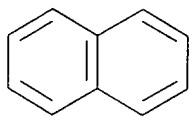


CM 5

CRN 1321-67-1

CMF C10 H8 O

CCI IDS



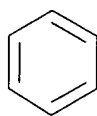
D1-OH

CM 6

CRN 1319-77-3

CMF C7 H8 O

CCI IDS



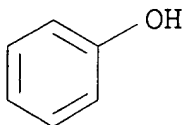
D1-OH

D1-Me

CM 7

CRN 108-95-2

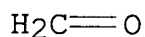
CMF C6 H6 O



CM 8

CRN 50-00-0

CMF C H2 O

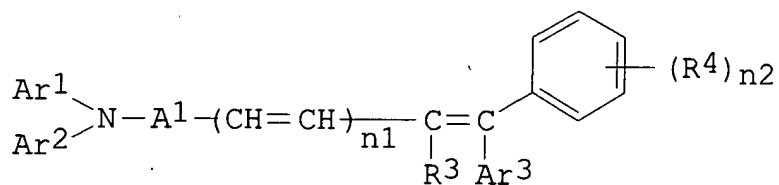


- IC ICM C08G059-18
ICS C08K005-54; C08L063-00; H01L023-29; H01L023-31
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 76
ST epoxy silane coupler potting **semiconductor**; sealing
semiconductor epoxy silane coupler
IT Potting compositions
(epoxy resin compns. contg. silane coupling agents for potting of
semiconductor devices)
IT **Semiconductor** devices
(epoxy resin compns. contg. silane coupling agents for sealing
of)
IT Coupling agents
(epoxy silanes; in potting compns. contg. epoxy resins for
semiconductor devices)
IT Epoxy resins, preparation
(in potting compns. contg. silane couplers for
semiconductor devices)
IT 166413-06-5P 166413-07-6P **166413-08-7P** 166413-10-1P
(potting compns. for **semiconductor** devices)

L66 ANSWER 5 OF 6 HCA COPYRIGHT 2004 ACS on STN

118:112979 Electrophotographic photoreceptor having polysilane-
containing charge-transport layer. Takeuchi, Shigeki; Tamaki,
Kiyoshi (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 04151669 A2
19920525 Heisei, 33 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1990-277176 19901016.

GI



I

AB The title electrophotog. photoreceptor is characterized in that the charge-transport layer contains a polysilane having a repeating unit SiR_1R_2 [$\text{R}_1, 2 = \text{H, alkyl, aryl, alkoxy, alkylsilyl, arylsilyl}$] and a compd. I [$\text{R}_3 = \text{H, alkyl, aryl, ; R}_4 = \text{substituent; A}_1 = \text{phenylene, naphthylene; Ar}_{1,2} = \text{alkyl, Ph, naphthyl; Ar}_3 = \text{H, Ph, naphthyl; n}_1 = 0, 1; \text{ and } n_2 = 0-5$]. This electrophotog. photoreceptor with high sensitivity has an excellent charge-transporting property and gives a low residual potential.

IT **146186-93-8**

(charge-transport layer contg., electrophotog. photoreceptor with high sensitivity from)

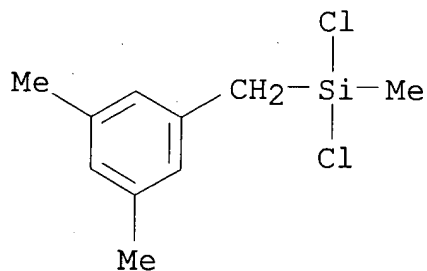
RN 146186-93-8 HCA

CN Silane, dichloro[(3,5-dimethylphenyl)methyl]methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 146186-92-7

CMF C10 H14 Cl2 Si



IC ICM G03G005-07

ICS G03G005-06

CC **74-3** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 76188-55-1, Polyphenylmethylsilane 88003-16-1,
 Polycyclohexylmethylsilane 94788-52-0 100463-48-7 100803-37-0
 100803-53-0 104552-29-6 109995-82-6 110839-65-1,
 Poly(ethylphenylsilylene) 121671-22-5 129781-76-6 130952-55-5,
 Poly[ethyl(4-methoxyphenyl)silylene] 130952-95-3 131272-70-3

131272-71-4 132230-57-0, Poly(ethylpropylsilylene) 132230-58-1,
 Polybutylethylsilane 138895-45-1 140142-91-2 145299-67-8
 145299-68-9 145299-69-0 145299-70-3 145299-71-4 145299-73-6
 146186-80-3 146186-81-4 146186-88-1 146186-89-2 146186-91-6
146186-93-8 146186-95-0 146191-76-6,
 Poly[ethyl(4-methylphenyl)silylene] 146191-77-7,
 Poly[(3,4-dimethylphenyl)methylsilylene] 146191-78-8
 146191-79-9, Poly[(cyclohexylmethyl)ethylsilylene]
 (charge-transport layer contg., electrophotog. photoreceptor with
 high sensitivity from)

L66 ANSWER 6 OF 6 HCA COPYRIGHT 2004 ACS on STN
 103:152126 **Semiconductor** device. (Shin-Etsu Chemical Industry
 Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 60070729 A2
19850422 Showa, 7 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1983-178781 19830927.

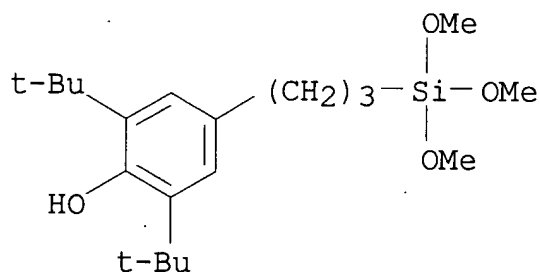
AB A resin-sealed **semiconductor** device (e.g., integrated
 circuit) resistant to moisture is described, whose
semiconductor-element surfaces (or **semiconductor**
 -element surfaces and inner-lead regions) are covered with a compn.
 contg. a curing-accelerating agent and organosilane compd.
 $R_nR_m2SiR_4-n-m3$, where R = an org. moiety having .gtoreq.1 groups
 reactive to the sealing material R2 = an org. moiety; R3 = OH or a
 group (excluding halogen) susceptible to hydrolysis; n = 1-3; m =
 0-2; and n + m = 1-3). Thus, a compn. consisted of
 glycidyloxypropyltrimethoxysilane and tetrabutoxytitanium.

IT **73956-48-6**

(**semiconductor** devices coated with compn. contg.)

RN 73956-48-6 HCA

CN Phenol, 2,6-bis(1,1-dimethylethyl)-4-[3-(trimethoxysilyl)propyl]-
 (9CI) (CA INDEX NAME)



IC ICM H01L021-312

ICS C09D003-82; H01L023-30

CC 76-3 (Electric Phenomena)

ST silane deriv coating **semiconductor** device

IT **Semiconductor** devices

(silane deriv. coating compns. for)

IT Electric insulators and Dielectrics
(silane deriv. compns., for **semiconductor** devices)
IT Potting
(with silane deriv. compns., of **semiconductor** devices
for moisture resistance)
IT 546-68-9 688-73-3 919-30-2 2530-83-8 4420-74-0 5593-70-4
13963-57-0 **73956-48-6** 98665-68-0
(**semiconductor** devices coated with compn. contg.)

=> d 168 1-23 cbib abs hitstr hitind

L68 ANSWER 1 OF 23 HCA COPYRIGHT 2004 ACS on STN

139:261652 Polymerized cycloolefins using transition metal catalyst and end product optical articles for electronic devices. Rhodes, Larry Funderburk; Bell, Andrew; Ravikiran, R.; Fondran, John C.; Jayaraman, Saikumar; Goodall, Brian Leslie; Mimna, Richard A.; Lipian, John-Henry (USA). U.S. Pat. Appl. Publ. US 2003181607 A1 20030925, 90 pp., Cont.-in-part of U.S. Ser. No. 196,525. (English). CODEN: USXXCO. APPLICATION: US 2002-271393 20021015. PRIORITY: US 1998-PV103120 19981005; US 1999-412935 19991005; US 2002-196525 20020716.

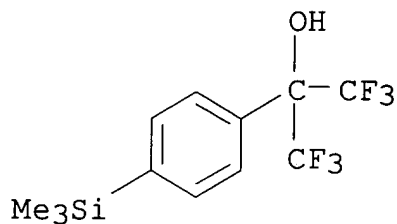
AB The addn. polymn. of cycloolefins uses a cationic Group 10 metal complex and a weakly coordinating anion (WCA), $[(R')zM(L')x(L'')y]b[WCA]d$, where $[(R')zM(L')x(L'')y]$ is a cation complex where M is a Group 10 transition metal; R' is anionic hydrocarbyl contg. ligand; L' is Group 15 neutral electron donor ligand; L'' is a labile neutral electron donor ligand; x = 1 or 2; y = 0, 1, 2, or 3; z = 0 or 1, where the sum of x, y, and z = 4; [WCA] is counter anion complex; and b and d are nos. representing the no. of times the cation complex and weakly coordinating counter anion complex are taken to balance the electronic charge on the overall catalyst complex.

IT 263880-56-4 263880-57-5 263880-58-6
263880-60-0 263880-61-1 263880-62-2
263880-63-3 263880-65-5 263880-66-6
263880-67-7 263880-68-8 263880-70-2

(weakly coordinating counterion component; transition metal complexes having weakly coordinating counterions for catalysts for polymn. of cycloolefins)

RN 263880-56-4 HCA

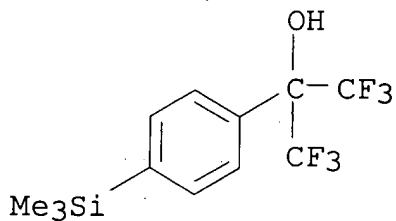
CN Benzenemethanol, .alpha.,.alpha.-bis(trifluoromethyl)-4-(trimethylsilyl)-, aluminum lithium salt (4:1:1) (9CI) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

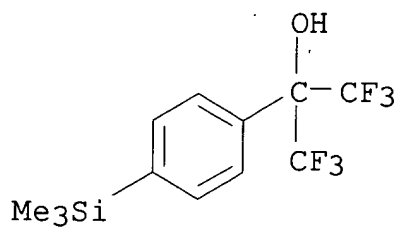
RN 263880-57-5 HCA
 CN Benzenemethanol, .alpha.,.alpha.-bis(trifluoromethyl)-4-(trimethylsilyl)-, aluminum thallium(1+) salt (4:1:1) (9CI) (CA INDEX NAME)



● 1/4 Al

● 1/4 Tl(I)

RN 263880-58-6 HCA
 CN Benzenemethanol, .alpha.,.alpha.-bis(trifluoromethyl)-4-(trimethylsilyl)-, aluminum silver(1+) salt (4:1:1) (9CI) (CA INDEX NAME)



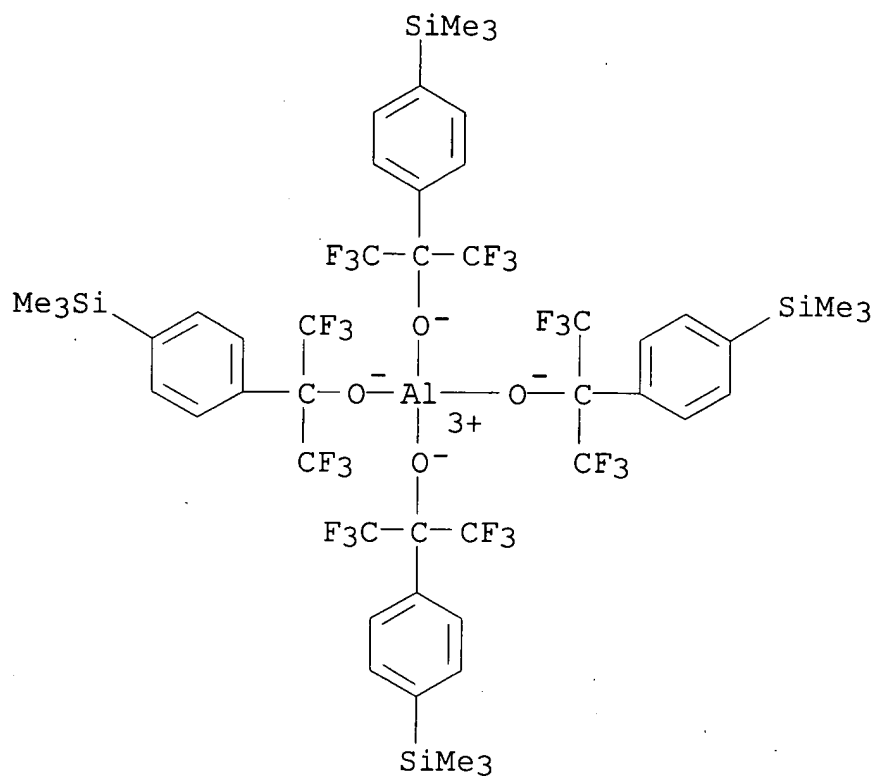
●1/4 Ag(I)

●1/4 Al

RN 263880-60-0 HCA
 CN Methylum, triphenyl-, (T-4)-tetrakis[.alpha.,.alpha.-bis(trifluoromethyl)-4-(trimethylsilyl)benzenemethanolato-.kappa.O]aluminate(1-) (9CI) (CA INDEX NAME)

CM 1

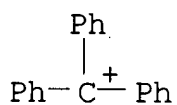
CRN 263880-59-7
 CMF C48 H52 Al F24 O4 Si4
 CCI CCS



CM 2

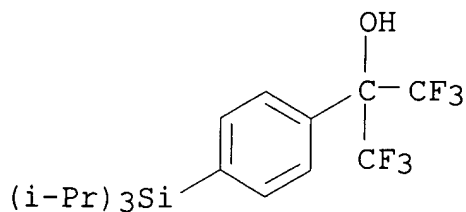
CRN 13948-08-8

CMF C19 H15



RN 263880-61-1 HCA

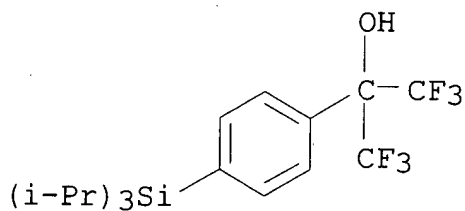
CN Benzenemethanol, .alpha.,.alpha.-bis(trifluoromethyl)-4-[tris(1-methylethyl)silyl]-, aluminum lithium salt (4:1:1) (9CI) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

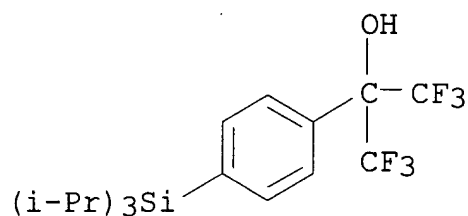
RN 263880-62-2 HCA
 CN Benzenemethanol, .alpha.,.alpha.-bis(trifluoromethyl)-4-[tris(1-methylethyl)silyl]-, aluminum thallium(1+) salt (4:1:1) (9CI) (CA INDEX NAME)



● 1/4 Al

● 1/4 Tl(I)

RN 263880-63-3 HCA
 CN Benzenemethanol, .alpha.,.alpha.-bis(trifluoromethyl)-4-[tris(1-methylethyl)silyl]-, aluminum silver(1+) salt (4:1:1) (9CI) (CA INDEX NAME)



● 1/4 Ag(I)

● 1/4 Al

RN 263880-65-5 HCA

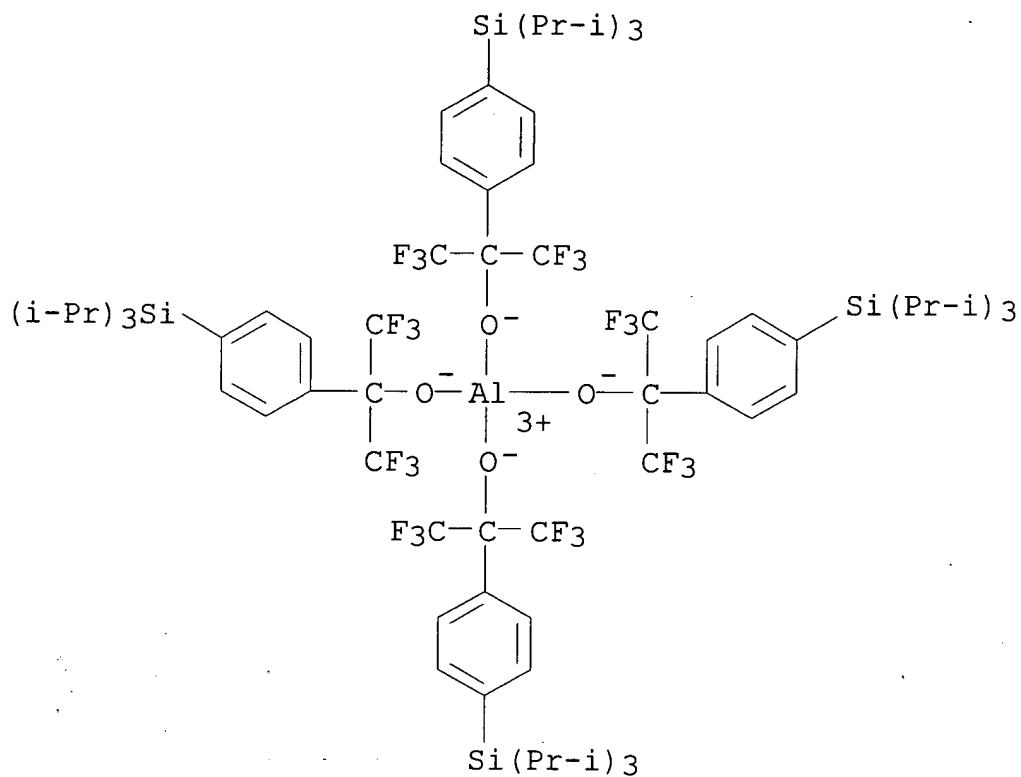
CN Methylium, triphenyl-, (T-4)-tetrakis[.alpha.,.alpha.-bis(trifluoromethyl)-4-[tris(1-methylethyl)silyl]benzenemethanolato-.kappa.O]aluminate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 263880-64-4

CMF C72 H100 Al F24 O4 Si4

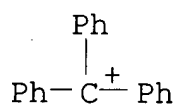
CCI CCS



CM 2

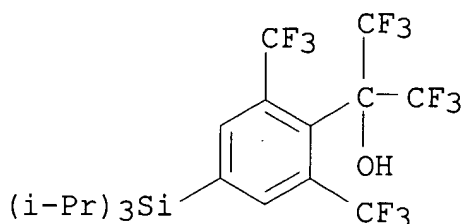
CRN 13948-08-8

CMF C19 H15



RN 263880-66-6 HCA

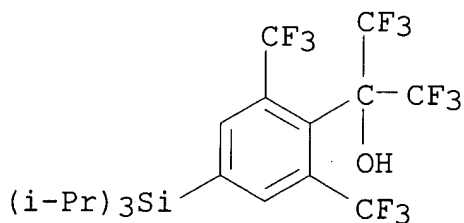
CN Benzenemethanol, .alpha.,.alpha.,2,6-tetrakis(trifluoromethyl)-4-[tris(1-methylethyl)silyl]-, aluminum lithium salt (4:1:1) (9CI)
(CA INDEX NAME)



● 1/4 Al

● 1/4 Li

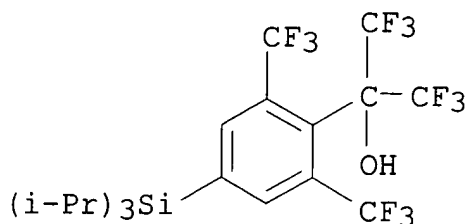
RN 263880-67-7 HCA
 CN Benzenemethanol, .alpha.,.alpha.,2,6-tetrakis(trifluoromethyl)-4-
 [tris(1-methylethyl)silyl]-, aluminum thallium(1+) salt (4:1:1)
 (9CI) (CA INDEX NAME)



● 1/4 Al

● 1/4 Tl(I)

RN 263880-68-8 HCA
 CN Benzenemethanol, .alpha.,.alpha.,2,6-tetrakis(trifluoromethyl)-4-
 [tris(1-methylethyl)silyl]-, aluminum silver(1+) salt (4:1:1) (9CI)
 (CA INDEX NAME)



● 1/4 Ag(I)

● 1/4 Al

RN 263880-70-2 HCA

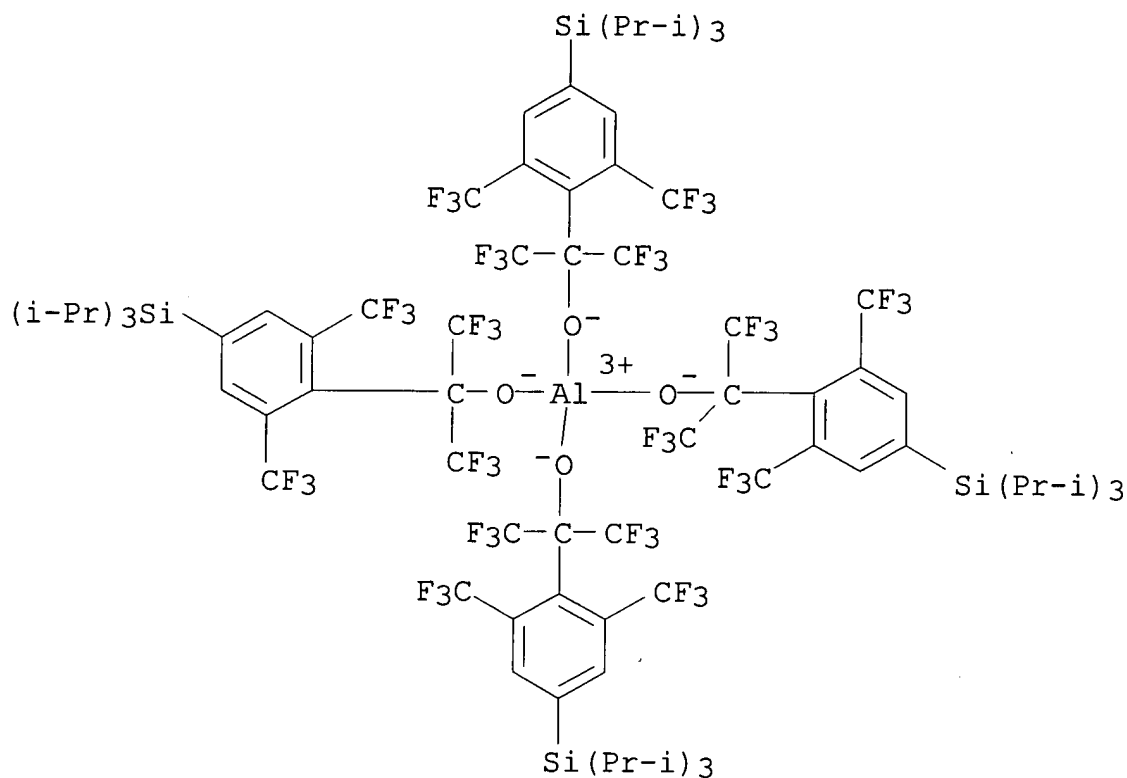
CN Methylium, triphenyl-, (T-4)-tetrakis[.alpha.,.alpha.,2,6-tetrakis(trifluoromethyl)-4-[tris(1-methylethyl)silyl]benzenemethanolato-.kappa.O]aluminate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 263880-69-9

CMF C80 H92 Al F48 O4 Si4

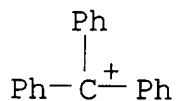
CCI CCS



CM 2

CRN 13948-08-8

CMF C19 H15



IT 188707-89-3 263879-84-1 263879-85-2

(weakly coordinating counterion component; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymn. of cycloolefins)

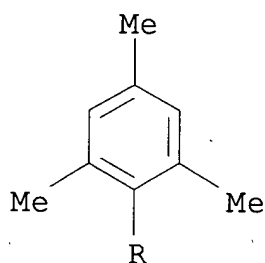
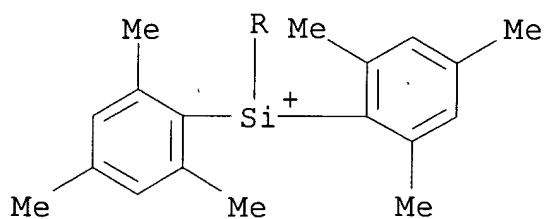
RN 188707-89-3 HCA

CN Silylium, tris(2,4,6-trimethylphenyl)-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 188707-88-2

CMF C27 H33 Si

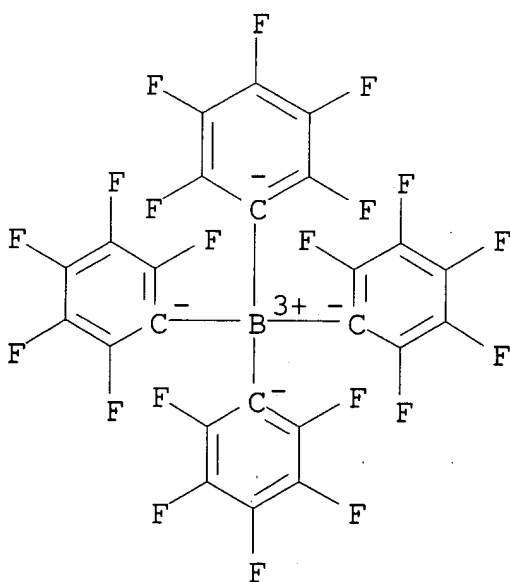


CM 2

CRN 47855-94-7

CMF C24 B F20

CCI CCS



RN 263879-84-1 HCA

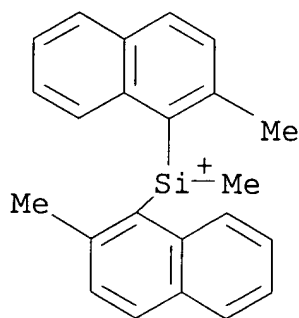
CN Silylium, methylbis(2-methyl-1-naphthalenyl)-,

tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 263879-83-0

CMF C23 H21 Si

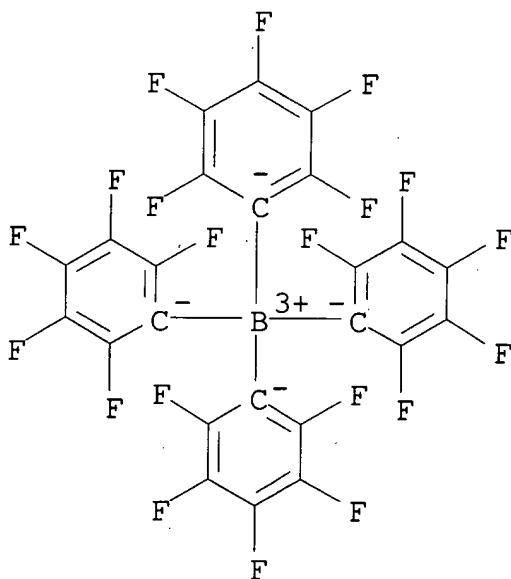


CM 2

CRN 47855-94-7

CMF C24 B F20

CCI CCS



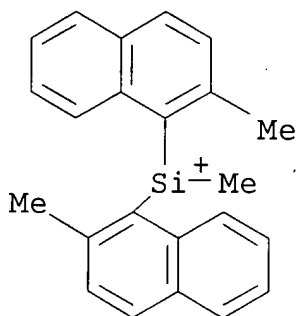
RN 263879-85-2 HCA

CN Silylium, methylbis(2-methyl-1-naphthalenyl)-, tetrakis[3,5-bis(trifluoromethyl)phenyl]borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 263879-83-0

CMF C23 H21 Si

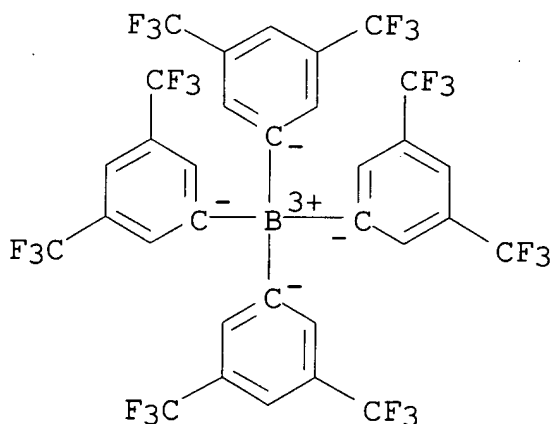


CM 2

CRN 79230-20-9

CMF C32 H12 B F24

CCI CCS



IC ICM C08F004-44

NCL 526134000; 526308000; 526171000; 526172000

CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67, 76ST optical **semiconductor** device cycloolefin polymer;
transition metal complex catalyst cycloolefin polymn; allylpalladium
cyclohexylphosphine fluorophenylborate catalyst butylnorbornene
ethoxysilylnorbornene polymnIT **Electroluminescent** devices
Electronic packaging materials
Optoelectronic **semiconductor** devices

(cycloolefin polymers for packaging of electronic devices)

IT 199450-09-4 220836-13-5 220836-14-6 220836-19-1 220836-26-0
 220836-29-3 220836-34-0 263880-01-9 263880-02-0 263880-03-1
 263880-04-2 263880-05-3 263880-07-5 263880-09-7 263880-10-0
 263880-12-2 263880-13-3 263880-14-4 263880-15-5 263880-16-6
 263880-18-8 263880-19-9 263880-22-4 263880-24-6 263880-25-7
 263880-28-0 263880-30-4 263880-34-8 263880-36-0 263880-38-2
 263880-40-6 263880-42-8 263880-43-9 263880-45-1 263880-46-2
 263880-47-3 263880-48-4 263880-49-5 263880-50-8 263880-52-0
 263880-53-1 263880-54-2 263880-55-3 **263880-56-4**
263880-57-5 263880-58-6 263880-60-0
263880-61-1 263880-62-2 263880-63-3
263880-65-5 263880-66-6 263880-67-7
263880-68-8 263880-70-2 263880-71-3
 263880-72-4 263880-73-5 263880-75-7 263880-76-8 263880-77-9
 263880-78-0 263880-80-4 263880-81-5 263880-82-6 263880-83-7
 263880-85-9 263880-87-1 263905-53-9 263905-54-0 263905-55-1
 263905-57-3

(weakly coordinating counterion component; transition metal complexes having weakly coordinating counterions for catalysts for polymn. of cycloolefins)

IT 143-66-8, Sodium tetrakis(pentafluorophenyl)borate 1109-15-5,
 Tris(pentafluorophenyl)boron 2797-28-6, Lithium
 tetrakis(pentafluorophenyl)borate 14104-20-2, Silver
 tetrafluoroborate 25776-12-9, Sodium tetrakis(4-
 fluorophenyl)borate 26603-18-9, Sodium tetrakis(3-
 fluorophenyl)borate 55471-58-4 68140-33-0, Lithium
 tetrakis(4-fluorophenyl)borate 70083-57-7 79060-88-1, Sodium
 tetrakis(3,5-bis(trifluoromethyl)phenyl)borate 89171-23-3,
 Potassium tetrakis(pentafluorophenyl)borate 105560-52-9, Potassium
 tetrakis[bis(3,5-trifluoromethyl)phenyl]borate 118612-00-3,
 N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate
 119861-51-7, Sodium tetrakis(3,5-difluorophenyl)borate 120945-63-3
 121919-80-0 136040-19-2, Trityl tetrakis(pentafluorophenyl)borate
 142617-68-3 143319-79-3 143607-32-3 144674-03-3 148354-26-1
 148354-27-2, Triethylsilylium tetrakis(pentafluorophenyl)borate
 149213-65-0, Sodium tetrakis(pentafluorophenyl)borate 153347-65-0,
 Lithium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate 156713-63-2
 157475-37-1 160298-75-9, Silver tetrakis(4-fluorophenyl)borate
 160298-76-0 167172-26-1 167172-28-3 172883-38-4 177716-84-6
 177716-86-8 177716-87-9 177716-91-5 177716-92-6 177716-94-8
 177716-99-3 177717-01-0 177717-03-2 177717-05-4 177717-08-7
 177717-10-1 177717-12-3 188019-19-4, Thallium
 tetrakis[3,5-bis(trifluoromethyl)phenyl]borate **188707-89-3**
 191101-32-3 220836-20-4 220836-25-9 225797-12-6 263878-81-5
 263878-82-6 263879-13-6, Lithium tetrakis(2-fluorophenyl)borate
 263879-14-7, Sodium tetrakis(2-fluorophenyl)borate 263879-15-8,
 Silver tetrakis(2-fluorophenyl)borate 263879-16-9, Thallium

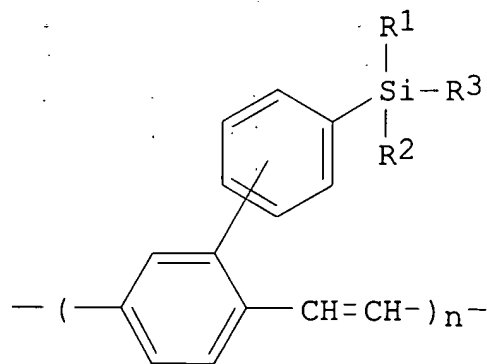
tetrakis(2-fluorophenyl)borate	263879-17-0,	Lithium		
tetrakis(3-fluorophenyl)borate	263879-18-1,	Silver		
tetrakis(3-fluorophenyl)borate	263879-19-2,	Thallium		
tetrakis(3-fluorophenyl)borate	263879-21-6,	Ferrocenium		
tetrakis(3-fluorophenyl)borate	263879-24-9,	Thallium		
tetrakis(4-fluorophenyl)borate	263879-27-2,	Lithium		
tetrakis(3,5-difluorophenyl)borate	263879-31-8	263879-32-9		
263879-33-0	263879-34-1	263879-35-2	263879-36-3	263879-37-4
263879-39-6	263879-40-9	263879-41-0	263879-45-4	263879-46-5
263879-47-6	263879-48-7	263879-49-8	263879-50-1	263879-51-2
263879-52-3	263879-53-4	263879-54-5	263879-55-6	263879-56-7
263879-57-8	263879-58-9	263879-59-0	263879-60-3	263879-61-4
263879-62-5	263879-63-6	263879-64-7	263879-65-8	263879-66-9
263879-67-0	263879-68-1	263879-69-2	263879-70-5	263879-71-6
263879-72-7	263879-73-8	263879-74-9	263879-75-0	263879-76-1
263879-78-3	263879-79-4	263879-80-7	263879-81-8	263879-82-9
263879-84-1	263879-85-2	263879-86-3		
263879-87-4	263879-88-5	263879-89-6	263879-90-9	263879-91-0
263879-92-1	263879-93-2	263879-94-3	263879-95-4	263879-96-5
263879-97-6	263879-98-7	263879-99-8	263880-00-8	

(weakly coordinating counterion component; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymn. of cycloolefins)

L68 ANSWER 2 OF 23 HCA COPYRIGHT 2004 ACS on STN

134:318779 **Electroluminescent** poly(p-phenylenevinylene) with high emission efficiency and good color tunability. Jin, Sun-Ho; Lee, Gee-Hong (Samsung Sdi Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 2001114873 A2 20010424, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-251531 20000822. PRIORITY: KR 1999-35040 19990823.

GI



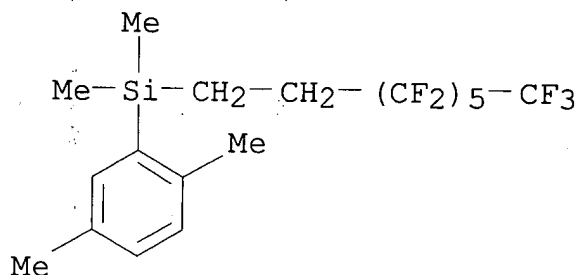
AB The polymer with poly(p-phenylenevinylene) backbone substituted with aliph. alkyl-contg. phenylsilane group is that represented as I (R1-R3 = aliph. linear or branched alkyl, fluorinated aliph. alkyl). The polymer may be a copolymer involving MeO- and ethylhexyloxy-substituted poly(p-phenylenevinylene) unit. The polymers, which provide thin films showing good org. solvent soly. and good interfacial property with electrodes, are used in an **electroluminescent** display device.

IT 335195-68-1P

(intermediate; **electroluminescent** aliph. alkylsilylphenyl-substituted polyphenylenevinylene from)

RN 335195-68-1 HCA

CN Silane, (2,5-dimethylphenyl)dimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)- (9CI) (CA INDEX NAME)



IC ICM C08G061-02

ICS C09K011-06; H05B033-10; H05B033-14; H05B033-22

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST **electroluminescent** silylphenyl substituted polyphenylenevinylene emission efficiency; color tunability **electroluminescent** silylphenyl substituted polyphenylenevinylene; display device **electroluminescent** silylphenyl substituted polyphenylenevinylene

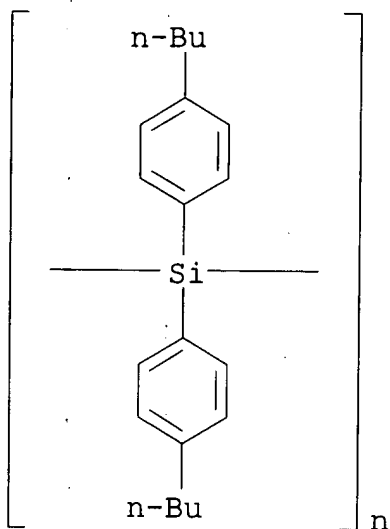
IT Poly(arylenealkenylenes) (**electroluminescent** aliph. alkylsilylphenyl-substituted polyphenylenevinylene with high emission efficiency and good color tunability)

IT **Electroluminescent** devices (**electroluminescent** aliph. alkylsilylphenyl-substituted polyphenylenevinylene with high emission efficiency and good color tunability for)

IT Phosphors (**electroluminescent; electroluminescent** aliph. alkylsilylphenyl-substituted polyphenylenevinylene with high emission efficiency and good color tunability)

IT 106-37-6, 1,4-Dibromobenzene 108-36-1, 1,3-Dibromobenzene

- 30897-86-0 66604-31-7, Dimethyldodecylsilyl chloride
 102488-47-1, 1H,1H,2H,2H-Perfluorooctyldimethylchlorosilane
 (**electroluminescent** aliph. alkylsilylphenyl-substituted
 polyphenylenevinylene from)
- IT 315180-93-9P 315681-76-6P 335195-63-6P 335195-66-9P
 335195-67-0P 335200-20-9P 335200-23-2P
 (**electroluminescent** aliph. alkylsilylphenyl-substituted
 polyphenylenevinylene with high emission efficiency and good
 color tunability)
- IT 315180-90-6P, 1-Bromo-4-(dimethyldodecylsilyl)benzene
 315180-91-7P, 1,4-Dimethyl-2-(4-(dimethyldodecylsilyl)phenyl)benzene
 335195-60-3P 335195-61-4P 335195-64-7P **335195-68-1P**
 (intermediate; **electroluminescent** aliph.
 alkylsilylphenyl-substituted polyphenylenevinylene from)
- IT 315180-92-8P 335195-62-5P 335195-65-8P
 (monomer; **electroluminescent** aliph.
 alkylsilylphenyl-substituted polyphenylenevinylene from)
- L68 ANSWER 3 OF 23 HCA COPYRIGHT 2004 ACS on STN
 134:208444 Preparation and single molecule structure of electroactive
 polysilane end-grafted on a crystalline silicon surface. Furukawa,
 Kazuaki; Ebata, Keisuke (NTT Basic Research Laboratories, Atsugi,
 Kanagawa, 243-0198, Japan). Applied Physics Letters, 77(26),
 4289-4291 (English) **2000**. CODEN: APPLAB. ISSN:
 0003-6951. Publisher: American Institute of Physics.
- AB Electroactive polysilanes of poly(methylphenylsilane) (PMPS) and
 poly[bis(p-n-butylphenyl)silane] (PBPS), which are good hole
 transporting material and a near-UV **electroluminescent**
 material, resp., were end-grafted directly on a cryst. silicon
 surface. The single polysilane mols. are clearly distinguished one
 from the other on the surface by at. force microscopy observations.
 End-grafted single mols. of PMPS are obsd. as dots while end-grafted
 PBPS appear as worms extending for more than 100 nm on the cryst.
 silicon surface.
- IT **107999-72-4**, Poly[bis(4-butylphenyl)silylene]
111939-58-3, Bis(4-butylphenyl)dichlorosilane homopolymer
 (fabrication and single mol. structure of electroactive and
 luminescent poly(methylphenylsilane) and poly(bis(n-
 butylphenylsilane)) end-grafted onto alkyl-bromide
 anchor/silicon)
- RN 107999-72-4 HCA
 CN Poly[bis(4-butylphenyl)silylene] (9CI) (CA INDEX NAME)



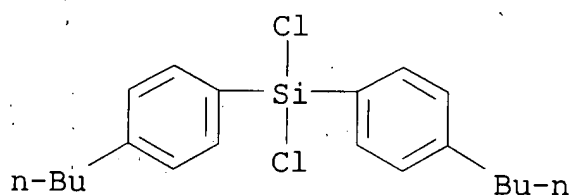
RN 111939-58-3 HCA

CN Silane, bis(4-butylphenyl)dichloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 111939-57-2

CMF C20 H26 Cl2 Si



CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 74, 76

ST polymethylphenylsilane hole transport single mol structure;
butylphenylsilane polymer **electroluminescent** single mol
attachment silicon; lithiated polysilane attachment anchor silicon
substrate; conducting polymer **electroluminescent** mol wire
structure

IT 31324-77-3 76188-55-1, Poly(methylphenylsilylene)

107999-72-4, Poly[bis(4-butylphenyl)silylene]

111939-58-3, Bis(4-butylphenyl)dichlorosilane homopolymer
(fabrication and single mol. structure of electroactive and
luminescent poly(methylphenylsilane) and poly(bis(n-
butylphenylsilane)) end-grafted onto alkyl-bromide

anchor/silicon)

L68 ANSWER 4 OF 23 HCA COPYRIGHT 2004 ACS on STN

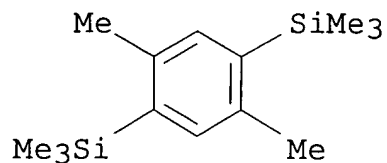
134:42524 A Family of **Electroluminescent** Silyl-Substituted Poly(p-phenylenevinylene)s: Synthesis, Characterization, and Structure-Property Relationships. Chen, Z.-K.; Huang, W.; Wang, L.-H.; Kang, E.-T.; Chen, B. J.; Lee, C. S.; Lee, S. T. (Institute of Materials Research and Engineering (IMRE), National University of Singapore, Singapore, 117602, Singapore). *Macromolecules*, 33(24), 9015-9025 (English) 2000. CODEN: MAMOBX. ISSN: 0024-9297. Publisher: American Chemical Society.

AB A series of intense photoluminescent (PL) polymers contg. silyl groups with chain length from C1 to C18 was synthesized through polycondensation reaction. The silyl groups in the conjugated polymer provide for improved processability, amorphous morphol., good film-forming ability, and sharp emission. Increasing the side chain length resulted in a slight decrease of thermal stability while increasing the mol. wt. The UV-vis absorption and PL emission spectra of the polymers are quite similar. A cyclic voltammetry (CV) study of the polymers reveals that the side chain length plays an important role in the redox behavior of the polymers. The short side chain polymers possess better reproducibility of CV scans and higher peak currents, which implies that the chem./elec. stability and charge injection and/or transport are more efficient than those for long side chain polymers. Test devices were fabricated from poly[2,5-bis(decyldimethylsilyl)-1,4-phenylene vinylene] (DS-PPV) with the configuration of ITO/DS-PPV/Mg:Ag and ITO/PEDOT:PSS/DS-PPV/Mg:Ag. Measurements indicate that hole injection is the detg. factor in charge transport. Addn. of a hole injection layer can improve the current efficiency and power efficiency by about 7 times and lower the turn-on voltage from 7.5 to 4.0 V for the two types of devices.

IT 31825-46-4P, 2,5-Bis(trimethylsilyl)-p-xylene
244177-37-5P, 2,5-Bis(dimethyloctadecylsilyl)-p-xylene
245677-03-6P, 2,5-Bis(decyldimethylsilyl)p-xylene
247262-62-0P, 2,5-Bis(butyldimethylsilyl)-p-xylene
313262-13-4P, 2,5-Bis(dimethyldodecylsilyl)-p-xylene
(intermediate; prepn. of monomers and prepn. and electrooptical properties of electrochromic luminescent silyl-substituted poly(p-phenylenevinylene) conjugated polymers for LEDs)

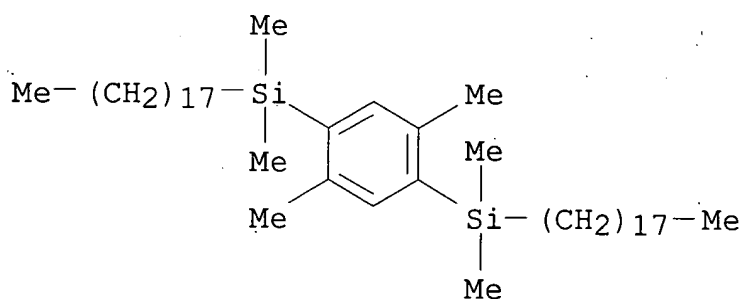
RN 31825-46-4 HCA

CN Silane, (2,5-dimethyl-1,4-phenylene)bis[trimethyl- (9CI) (CA INDEX NAME)



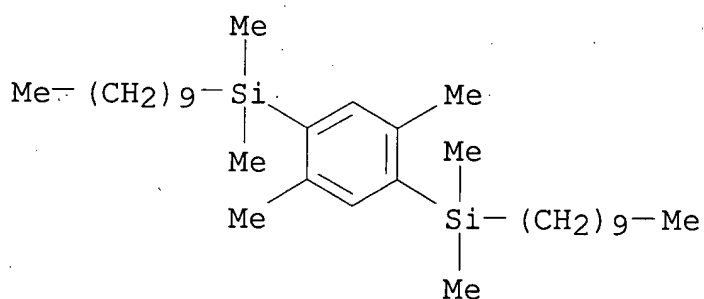
RN 244177-37-5 HCA

CN Silane, (2,5-dimethyl-1,4-phenylene)bis[dimethyloctadecyl- (9CI)
(CA INDEX NAME)



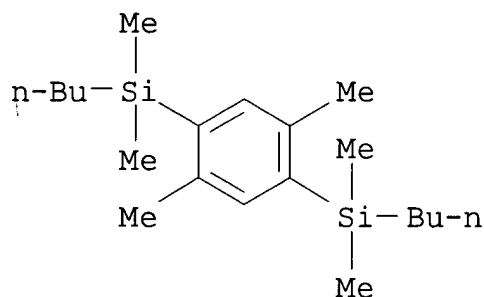
RN 245677-03-6 HCA

CN Silane, (2,5-dimethyl-1,4-phenylene)bis[decyldimethyl- (9CI) (CA
INDEX NAME)

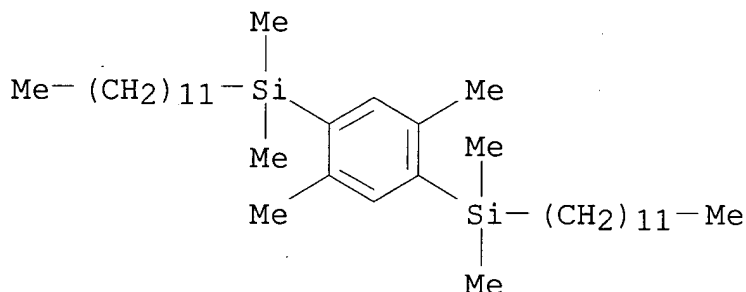


RN 247262-62-0 HCA

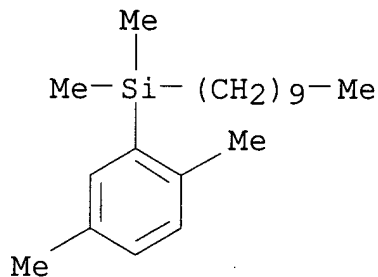
CN Silane, (2,5-dimethyl-1,4-phenylene)bis[butyldimethyl- (9CI) (CA
INDEX NAME)



RN 313262-13-4 HCA
 CN Silane, (2,5-dimethyl-1,4-phenylene)bis[dodecyldimethyl- (9CI) (CA INDEX NAME)



IT **245677-04-7P**, 2-Decyldimethylsilyl-p-xylene
 (prepn. of monomers and prepn. and electrooptical properties of
 electrochromic luminescent silyl-substituted poly(p-
 phenylenevinylene) conjugated polymers for LEDs)
 RN 245677-04-7 HCA
 CN Silane, decyl(2,5-dimethylphenyl)dimethyl- (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 36, 73, 74
 ST silyl polyphenylenevinylene prepn photoluminescence chain length
 effect; conjugated polymer silyl substituted polyphenylenevinylene

thermal stability; redox electrochem silyl polyphenylenevinylene
charge injection transport; hole injection current efficiency silyl
polyphenylenevinylene; **light emitting** diode
silyl polyphenylenevinylene current efficiency

- IT **31825-46-4P**, 2,5-Bis(trimethylsilyl)-p-xylene
244177-37-5P, 2,5-Bis(dimethyloctadecylsilyl)-p-xylene
245677-03-6P, 2,5-Bis(decyldimethylsilyl)p-xylene
247262-62-0P, 2,5-Bis(butyldimethylsilyl)-p-xylene
313262-13-4P, 2,5-Bis(dimethyldodecylsilyl)-p-xylene
(intermediate; prepn. of monomers and prepn. and electrooptical
properties of electrochromic luminescent silyl-substituted
poly(p-phenylenevinylene) conjugated polymers for LEDs)
- IT **245677-04-7P**, 2-Decyldimethylsilyl-p-xylene
(prepn. of monomers and prepn. and electrooptical properties of
electrochromic luminescent silyl-substituted poly(p-
phenylenevinylene) conjugated polymers for LEDs)

L68 ANSWER 5 OF 23 HCA COPYRIGHT 2004 ACS on STN

133:24511 Organic **electroluminescent** materials and devices.

Chou, Homer A. (Organic Display Technology, USA). PCT Int. Appl. WO
2000031208 A1 **20000602**, 60 pp. DESIGNATED STATES: W: AE,
AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,
EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA,
UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE,
BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE,
IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN:
PIXXD2. APPLICATION: WO 1999-US27234 19991117. PRIORITY: US
1998-196672 19981119.

- AB **Electroluminescent** devices and materials are described
which comprise an **electroluminescent** organosiloxane
polymer having a main chain which comprises an org. component that
can be alkenyl, alkynyl, aralkyl, aryl, heteroaralkyl, and
heteroaryl which can be substituted optionally with hydrogen, alkyl,
aryl, heteroalkyl, heteroaralkyl, nitro, cyano, hydroxy, alkoxy,
aryloxy, thio, alkythio, arylthio, amino, halogen, dialkylamino,
diaryl amino, diaralkyl amino, aryl amino, alkyl amino, arylalkyl amino,
carbonyloxy, carbonylalkoxy, carbonylalkyloxy, alkylcarbonyloxy,
arylcarbonyloxy, alkoxylcarbonyloxy, sulfonyl, or sulfonyloxy. The
org. component includes .gtoreq.2 covalent bonds coupling the org.
component to the main chain of the organosiloxane polymer.
Fabrication of the devices is also described. The devices provide
superior performance and mech. stability compared with conventional
org. **electroluminescent** materials and devices made from
such materials.

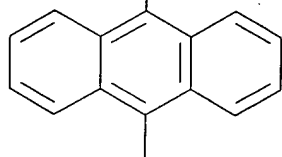
- IT **272117-23-4DP**, reaction products with air, polymers
(org. **electroluminescent** materials based on

organosiloxane polymers and devices using them and their fabrication)

RN 272117-23-4 HCA

CN Silane, (9,10-anthracenediylldi-3,1-propanediyl)bis[trichloro- (9CI)
(CA INDEX NAME)

Cl₃Si-(CH₂)₃



Cl₃Si-(CH₂)₃

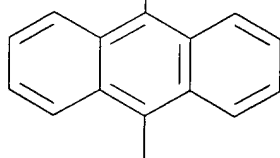
IT 272117-23-4P

(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)

RN 272117-23-4 HCA

CN Silane, (9,10-anthracenediylldi-3,1-propanediyl)bis[trichloro- (9CI)
(CA INDEX NAME)

Cl₃Si-(CH₂)₃



Cl₃Si-(CH₂)₃

IC ICM C09K011-06

ICS H05B033-14; H01L051-20; C08G077-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

ST organosiloxane polymer **electroluminescent** device

IT Phosphors

(**electroluminescent**; org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)

IT **Electroluminescent** devices

Electroluminescent devices

Semiconductor device fabrication

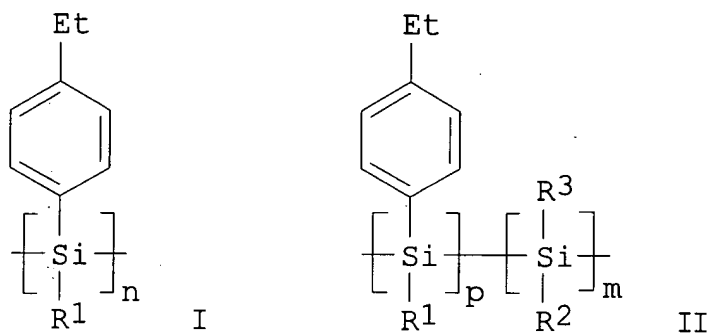
(org. **electroluminescent** materials based on

- organosiloxane polymers and devices using them and their fabrication)
- IT Polysiloxanes, uses
(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)
- IT 135-48-8D, Pentacene, derivs., reaction products with air, polymers 7439-95-4, Magnesium, uses 50926-11-9, Indium-tin oxide
(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)
- IT 198-55-0, Perylene 917-23-7, Tetraphenylporphyrin 38215-36-0, Coumarin 6
(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)
- IT 272117-23-4DP, reaction products with air, polymers
(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)
- IT 84-65-1, Anthraquinone 106-95-6, Allyl bromide, reactions 10025-78-2, Trichlorosilane
(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)
- IT 1730-25-2P, Allylmagnesium bromide 4636-75-3P, 9,10-Diallylanthracene 272117-23-4P
(org. **electroluminescent** materials based on organosiloxane polymers and devices using them and their fabrication)

L68 ANSWER 6 OF 23 HCA COPYRIGHT 2004 ACS on STN

128:95329 Polysilane hole transporting material.. Nishida, Ryoichi; Kawasaki, Shinichi; Murase, Hiroaki; Fujiki, Tsuyoshi (Osaka Gas Company Limited, Japan). PCT Int. Appl. WO 9746916 A1 19971211, 31 pp. DESIGNATED STATES: W: CN, JP, KR, SG, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1997-JP1927 19970606. PRIORITY: JP 1996-145952 19960607.

GI

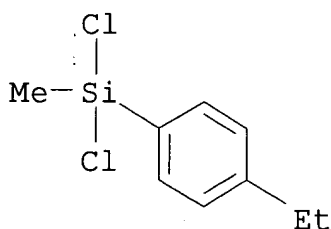


- AB A hole transporting material having a structure represented by general formula I (R1 = H, alkyl; n = 10-20,000) or II (R1 = H, alkyl; R2, R3 = H, alkyl, aryl, alkoxy, amino, silyl; p = pos. no.; m = 0, pos. no.; p + m is in the range of from 10 to 20,000.) and being excellent in film forming and hole transporting properties. The material is suitable for electrophotog. photoreceptors, org. electroluminescent devices, etc.
- IT 200817-66-9P, (p-Ethylphenyl)methyldichlorosilane homopolymer 200817-67-0P 200817-68-1P 200817-69-2P 200817-70-5P, (p-Ethylphenyl)methyldichlorosilane homopolymer, sru (prepn. of polysilane hole transporting material)
- RN 200817-66-9 HCA
- CN Silane, dichloro(4-ethylphenyl)methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 17878-04-5

CMF C9 H12 Cl2 Si



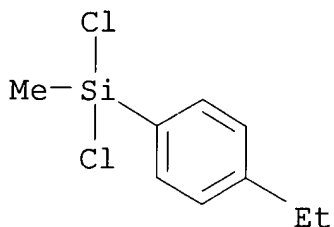
RN 200817-67-0 HCA

CN Silane, dichloro(4-ethylphenyl)methyl-, polymer with dichloromethylphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 17878-04-5

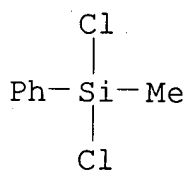
CMF C9 H12 Cl2 Si



CM 2

CRN 149-74-6

CMF C7 H8 Cl2 Si



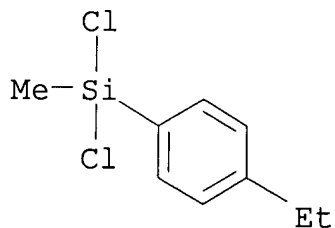
RN 200817-68-1 HCA

CN Silane, dichlorocyclohexylmethyl-, polymer with dichloro(4-ethylphenyl)methylsilane (9CI) (CA INDEX NAME)

CM 1

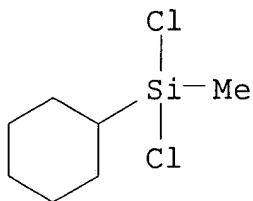
CRN 17878-04-5

CMF C9 H12 Cl2 Si



CM 2

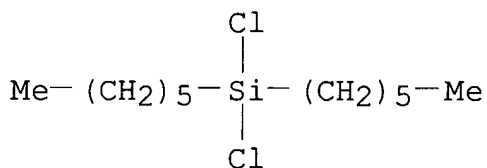
CRN 5578-42-7
CMF C7 H14 Cl2 Si



RN 200817-69-2 HCA
CN Silane, dichlorodihexyl-, polymer with dichloro(4-ethylphenyl)methylsilane (9CI) (CA INDEX NAME)

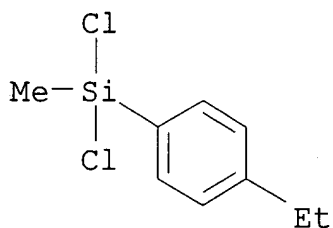
CM 1

CRN 18204-93-8
CMF Cl2 H26 Cl2 Si

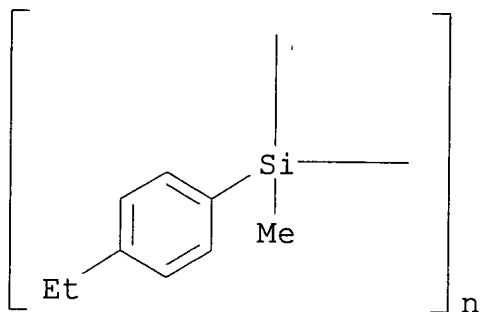


CM 2

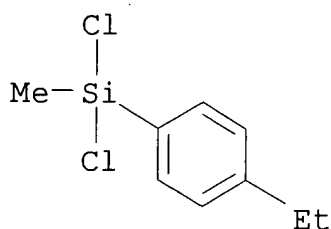
CRN 17878-04-5
CMF C9 H12 Cl2 Si



RN 200817-70-5 HCA
CN Poly[(4-ethylphenyl)methylsilylene] (9CI) (CA INDEX NAME)



IT 17878-04-5P, (p-Ethylphenyl)methyldichlorosilane
 (prepn. of polysilane hole transporting material)
 RN 17878-04-5 HCA
 CN Silane, dichloro(4-ethylphenyl)methyl- (9CI) (CA INDEX NAME)

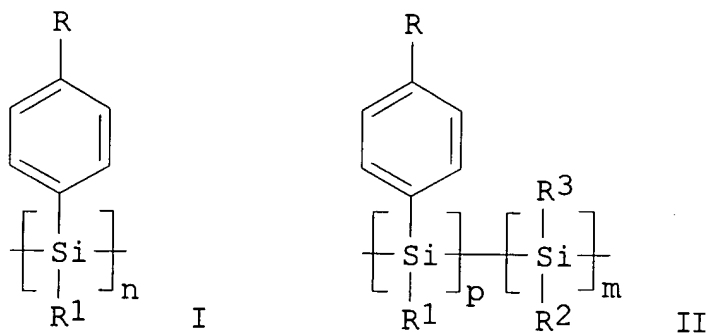


IC ICM G03G005-07
 ICS C08G077-60
 CC 74-3 (Radiation Chemistry, Photochemistry, and
 Photographic and Other Reprographic Processes)
 ST hole transporting material polysilane; electrophotog photoreceptor
 electroluminescent device
 IT Electroluminescent devices
 Electrophotographic photoconductors (photoreceptors)
 (polysilane hole transporting material)
 IT 200817-66-9P, (p-Ethylphenyl)methyldichlorosilane
 homopolymer 200817-67-0P 200817-68-1P
 200817-69-2P 200817-70-5P, (p-
 Ethylphenyl)methyldichlorosilane homopolymer, sru
 (prepn. of polysilane hole transporting material)
 IT 17878-04-5P, (p-Ethylphenyl)methyldichlorosilane
 (prepn. of polysilane hole transporting material)

L68 ANSWER 7 OF 23 HCA COPYRIGHT 2004 ACS on STN
 128:95328 Polysilanes and positive hole transporting materials.
 Nishida, Ryoichi; Kawasaki, Shinichi; Murase, Hiroaki; Fujiki,
 Tsuyoshi (Osaka Gas Company Limited, Japan). PCT Int. Appl. WO
 9746605 A1 19971211, 42 pp. DESIGNATED STATES: W: CN,

JP, KR, SG, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1997-JP1928 19970606. PRIORITY: JP 1996-146062 19960607.

GI



AB Polysilanes of general formulas I (R = C3-20 alkyl; R1 = H, alkyl; n = 10-20,000) and II (R = C3-20 alkyl; R1 = H, alkyl; R2, R3 = H, alkyl, aryl, alkoxy, amino, silyl; p .gtoreq.1; m .gtoreq.0; p+m = 10-20,000) exhibiting excellent pos. hole transporting characteristics when used in electrophotog. photoreceptors, org. **electroluminescent** devices, or the like. The polysilanes show excellent film forming property and flexibility.

IT **200817-72-7P**, (p-Propylphenyl)methyldichlorosilane homopolymer **200817-73-8P 200817-75-0P 200817-77-2P 200817-78-3P 200817-79-4P**, (p-Propylphenyl)methyldichlorosilane homopolymer, sru (prepn. of polysilanes suitable as pos. hole transporting materials)

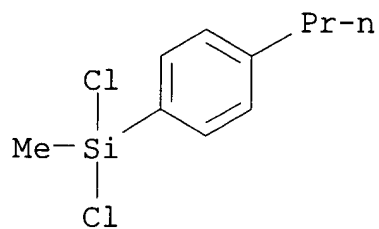
RN 200817-72-7 HCA

CN Silane, dichloromethyl(4-propylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 200817-71-6

CMF C10 H14 Cl2 Si



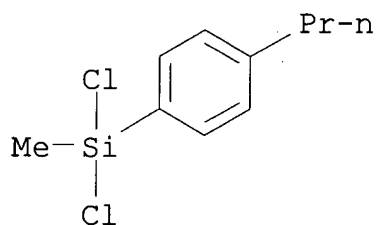
RN 200817-73-8 HCA

CN Silane, dichloromethylphenyl-, polymer with dichloromethyl(4-propylphenyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 200817-71-6

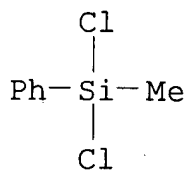
CMF C10 H14 Cl2 Si



CM 2

CRN 149-74-6

CMF C7 H8 Cl2 Si



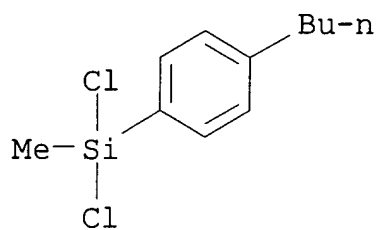
RN 200817-75-0 HCA

CN Silane, (4-butylphenyl)dichloromethyl-, polymer with dichloromethylphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 200817-74-9

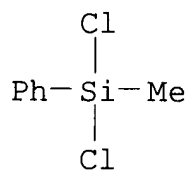
CMF C11 H16 Cl2 Si



CM 2

CRN 149-74-6

CMF C7 H8 Cl2 Si



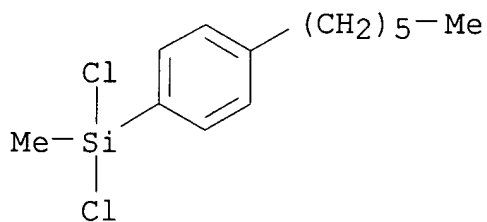
RN 200817-77-2 HCA

CN Silane, dichloro(4-hexylphenyl)methyl-, polymer with
dichloromethylphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 200817-76-1

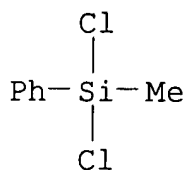
CMF C13 H20 Cl2 Si



CM 2

CRN 149-74-6

CMF C7 H8 Cl2 Si



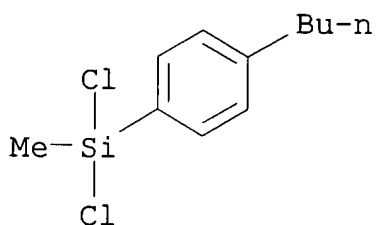
RN 200817-78-3 HCA

CN Silane, (4-butylphenyl)dichloromethyl-, polymer with
dichloro(4-ethylphenyl)methylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 200817-74-9

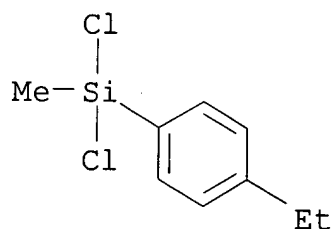
CMF C11 H16 Cl2 Si



CM 2

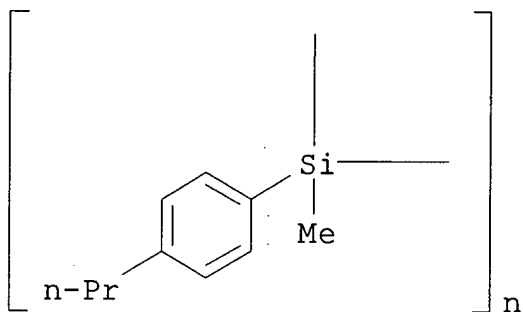
CRN 17878-04-5

CMF C9 H12 Cl2 Si

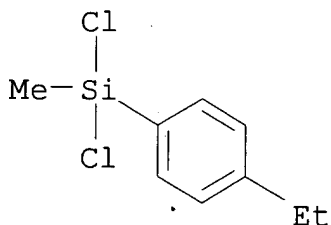


RN 200817-79-4 HCA

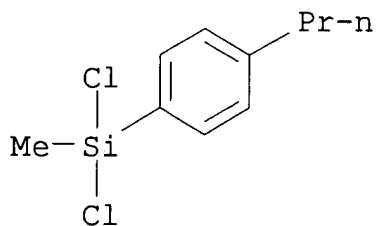
CN Poly[methyl(4-propylphenyl)silylene] (9CI) (CA INDEX NAME)



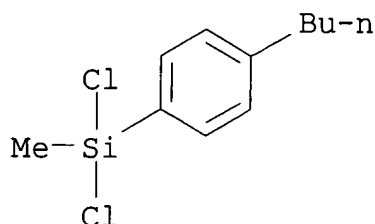
IT 17878-04-5P, (p-Ethylphenyl)methyldichlorosilane
 200817-71-6P, (p-Propylphenyl)methyldichlorosilane
 200817-74-9P, (p-n-Butylphenyl)methyldichlorosilane
 200817-76-1P, (p-n-Hexylphenyl)methyldichlorosilane
 (prepn. of polysilanes suitable as pos. hole transporting materials)
 RN 17878-04-5 HCA
 CN Silane, dichloro(4-ethylphenyl)methyl- (9CI) (CA INDEX NAME)



RN 200817-71-6 HCA
 CN Silane, dichloromethyl(4-propylphenyl)- (9CI) (CA INDEX NAME)

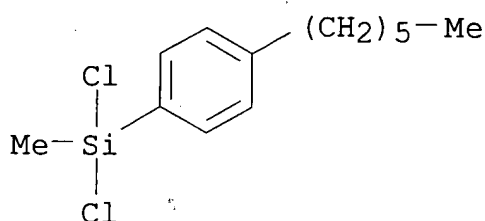


RN 200817-74-9 HCA
 CN Silane, (4-butylphenyl)dichloromethyl- (9CI) (CA INDEX NAME)



RN 200817-76-1 HCA

CN Silane, dichloro(4-hexylphenyl)methyl- (9CI) (CA INDEX NAME)



IC ICM C08G077-60

CC **74-3** (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

ST polysilane pos hole transporting material; electrophotog
photoreceptor org **electroluminescent** device

IT **Electroluminescent** devices

Electrophotographic photoconductors (photoreceptors)
(polysilanes and pos. hole transporting materials)

IT **200817-72-7P**, (p-Propylphenyl)methyldichlorosilane

homopolymer **200817-73-8P 200817-75-0P**

200817-77-2P 200817-78-3P 200817-79-4P,

(p-Propylphenyl)methyldichlorosilane homopolymer, sru

(prepn. of polysilanes suitable as pos. hole transporting
materials)

IT **17878-04-5P**, (p-Ethylphenyl)methyldichlorosilane

200817-71-6P, (p-Propylphenyl)methyldichlorosilane

200817-74-9P, (p-n-Butylphenyl)methyldichlorosilane

200817-76-1P, (p-n-Hexylphenyl)methyldichlorosilane

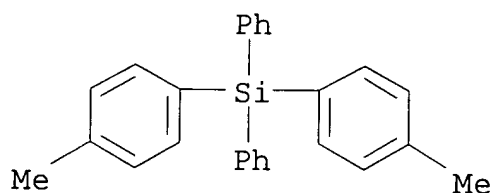
(prepn. of polysilanes suitable as pos. hole transporting
materials)

L68 ANSWER 8 OF 23 HCA COPYRIGHT 2004 ACS on STN

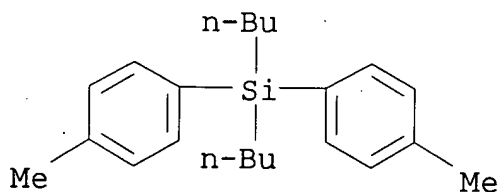
126:157885 Novel Silicon-Containing Poly(p-phenylenevinylene)-Related
Polymers: Synthesis and Optical Properties. Kim, Hwan Kyu; Ryu,
Mi-Kyung; Lee, Soo-Min (Departments of Macromolecular Science and
Chemistry, Hannam University, Taejon, 300-791, S. Korea).

Macromolecules, 30(4), 1236-1239 (English) 1997. CODEN: MAMOBX. ISSN: 0024-9297. Publisher: American Chemical Society.

- AB A new class of silicon-contg. poly(p-phenylenevinylene)-related polymers with uniform .pi.-conjugated segment regulated by organosilicon units were synthesized by the Wittig reaction between the dialdehyde and the appropriate diphosphonium salt. The resulting polymers were highly sol. in common org. solvents. The polymers were spin cast onto various substrates to give highly transparent homogeneous thin films without heat treatment. The no.-av. mol. wt. of the resulting polymers is 2500-2800 with a polydispersity of 1.4-1.5. The glass transition temp. was 105-109.degree.. The polymers show strong absorption bands around 345-375 nm, which correspond to the .pi.-.pi.* transition of the conjugated segments. The photoluminescence spectra band appeared around 440-480 nm in the blue emission region, since the .pi.-conjugated system is interrupted by organosilicon units.
- IT 18708-42-4P 18754-82-0P, Di-p-tolyldibutylsilane
(prepn. and electronic properties of conjugated polysilane-poly(p-phenylenevinylene)s)
- RN 18708-42-4 HCA
- CN Silane, bis(4-methylphenyl)diphenyl- (9CI) (CA INDEX NAME)



- RN 18754-82-0 HCA
- CN Silane, dibutylbis(4-methylphenyl)- (9CI) (CA INDEX NAME)



- CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 74
- IT Crystallinity
Electric current carriers
Glass transition temperature
Luminescence
Luminescence, electroluminescence

UV absorption

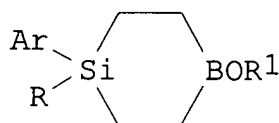
(prepn. and electronic properties of conjugated polysilane-poly(p-phenylenevinylene)s)

IT **18708-42-4P 18754-82-0P**, Di-p-tolyldibutylsilane
 186045-11-4P, Bis(p-(bromomethyl)phenyl)dibutylsilane
 186045-12-5P, Bis(p-(bromomethyl)phenyl)diphenylsilane
 (prepn. and electronic properties of conjugated polysilane-poly(p-phenylenevinylene)s)

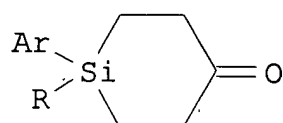
L68 ANSWER 9 OF 23 HCA COPYRIGHT 2004 ACS on STN

126:24897 Manufacture of silacyclohexanone compound as silacyclohexane intermediate for liquid-crystal display. Asakura, Kazuyuki; Shimizu, Takaaki; Ogiwara, Tsutomu; Kano, Takeshi; Hasegawa, Koji (Shinetsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 08245648 A2 **19960924** Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-72417 19950306.

GI



I



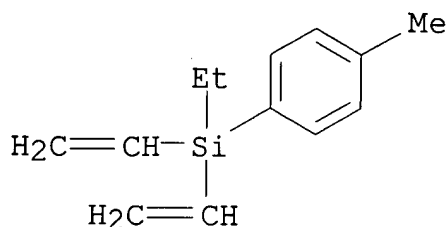
II

AB The silacyclohexanone compd. II (Ar = Ph, tolyl; R = Ar, C1-10 normal alkyl, C1-10 mono or difluoroalkyl; C3-8 branched alkyl, C2-7 alkoxyalkyl) is manufd. by hydroboration treating a divinylsilane compd. H₂C:CHSi(Ar)(R)CH:CH₂ with 9-borabicyclo[3.3.1]nonane, a borane reagent, and an alc., treating the resulting silaborinane compd. I (R₁ = Me, tert-Bu, triethylcarbyl) with an alkoxyolithium compd. and .gtoreq.1 base selected from alkoxyalkyl metal compds. MOR₂ (M = Li, Na, K; R₂ = C1-4 normal alkyl, C3-4 branched alkyl, H) and alkyl metal hydroxides and a haloform carboanion source CHXY₂ (X = Cl, Br, I; Y = F, Cl, Br, I), and oxidizing. II was obtained with high yield.

IT **184297-43-6 184297-44-7 184297-45-8**
 (manuf. of silacyclohexanone compd. as silacyclohexane intermediate for liq.-crystal display)

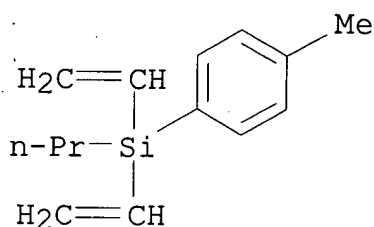
RN 184297-43-6 HCA

CN Silane, diethenylethyl(4-methylphenyl)- (9CI) (CA INDEX NAME)



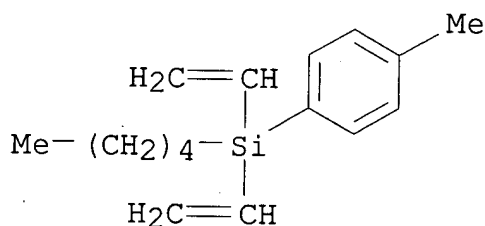
RN 184297-44-7 HCA

CN Silane, diethenyl(4-methylphenyl)propyl- (9CI) (CA INDEX NAME)



RN 184297-45-8 HCA

CN Silane, diethenyl(4-methylphenyl)pentyl- (9CI) (CA INDEX NAME)



IC ICM C07F007-08

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 29, 75IT **Optical imaging** devices

(manuf. of silacyclohexanone compd. as silacyclohexane intermediate for liq.-crystal display)

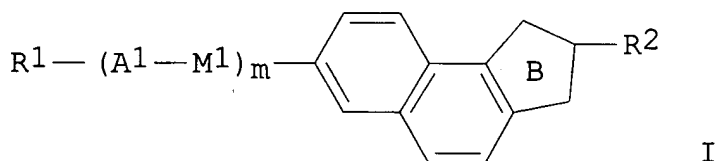
IT 280-64-8, 9-Borabicyclo[3.3.1]nonane 17937-68-7,
Diphenyldivinylsilane 184297-41-4 184297-42-5**184297-43-6 184297-44-7 184297-45-8**

(manuf. of silacyclohexanone compd. as silacyclohexane intermediate for liq.-crystal display)

L68 ANSWER 10 OF 23 HCA COPYRIGHT 2004 ACS on STN

124:356417 Tricyclic compound and its use in liquid crystal mixture for liquid crystal display. Wingen, Rainer; Manero, Javier (Hoechst A.-G., Germany). Ger. Offen. DE 4434975 A1 **19960404**, 29 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1994-4434975 19940930.

GI

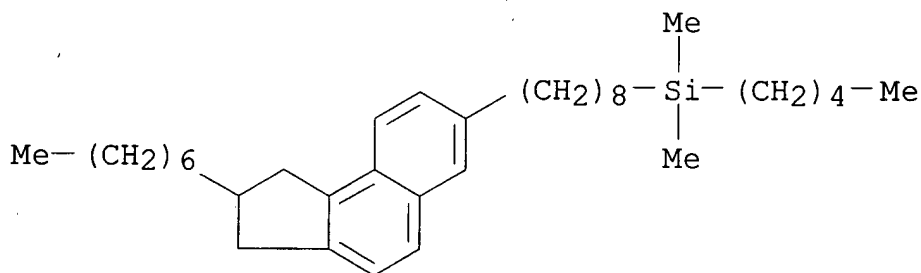


AB The title compd. is represented by I [R1 = F, CN, Cl, CF3; R 2 = H, Cl-20 alkyl, alkoxy; B = (F-substituted) (un)satd. 5-membered ring; A1 = (F-substituted) 1,4-phenylene, 1,4-cyclohexylene, pyridin-2,5-diyl, pyrimidin-2,5-diyl, (1,3)-thiazol-2,5-diyl, (1,3)-thiazol-2,4-diyl, (1,3,4)-thiadiazol-2,5-diyl; M1 = single bond, C.tplbond.C, CH2CH2, OCO, COO, CO, OCH2, CH2O, OCOO; m = 0, 1].

IT **176854-33-4P 176854-39-0P 176854-41-4P**
(prepn. of dihydro tricyclic compds.)

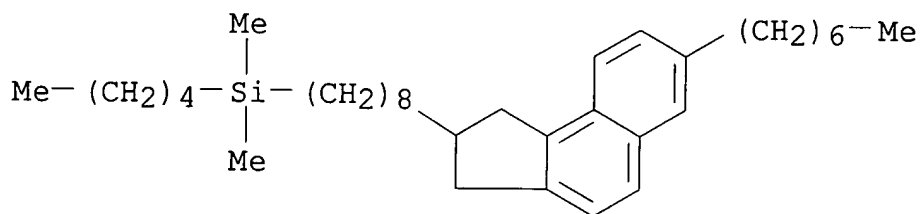
RN 176854-33-4 HCA

CN Silane, [8-(2-heptyl-2,3-dihydro-1H-benz[e]inden-7-yl)octyl]dimethylpentyl- (9CI) (CA INDEX NAME)

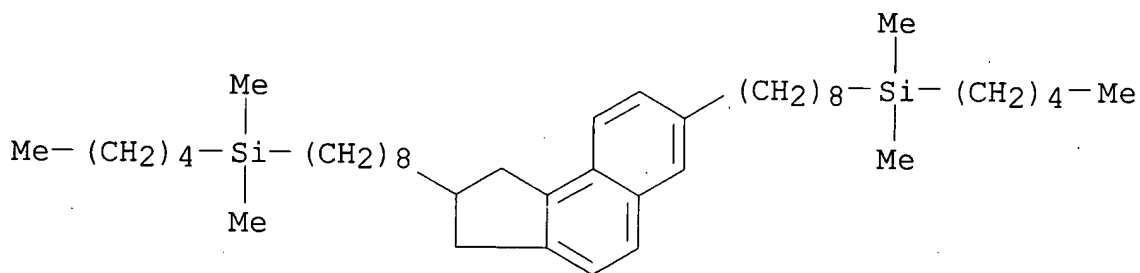


RN 176854-39-0 HCA

CN Silane, [8-(7-heptyl-2,3-dihydro-1H-benz[e]inden-2-yl)octyl]dimethylpentyl- (9CI) (CA INDEX NAME)



RN 176854-41-4 HCA
 CN Silane, [(2,3-dihydro-1H-benz[e]indene-2,7-diyl)di-8,1-octanediyl]bis[dimethylpentyl- (9CI) (CA INDEX NAME)]



IC ICM C07F007-08
 ICS C07C049-215; C07C043-225; C07C043-20; C07F019-00; C07F009-6539;
 C07C069-035; C07C025-18; C07C013-547; C07D213-61; C07D239-26;
 C09K019-32
 ICA C07C043-21; C07C043-205; C07C049-225; C07C049-227; C07C255-50;
 C07D285-12; C07D315-00; C07D317-04
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 75
 IT **Optical imaging devices**
 (electrooptical liq.-crystal, dihydro tricyclic compd. and its
 use in liq. crystal mixt. for liq. crystal display)
 IT 176854-29-8P 176854-30-1P 176854-31-2P 176854-32-3P
176854-33-4P 176854-34-5P 176854-35-6P 176854-36-7P
 176854-37-8P 176854-38-9P **176854-39-0P** 176854-40-3P
176854-41-4P 176854-42-5P 176854-43-6P 176854-44-7P
 176854-45-8P 176854-46-9P 176854-47-0P 176854-48-1P
 176854-49-2P 176854-50-5P 176854-51-6P 176854-52-7P
 176854-53-8P 176854-54-9P 176854-55-0P 176854-56-1P
 176854-57-2P 176854-58-3P 176854-59-4P 176854-60-7P
 176854-61-8P 176854-62-9P 176854-63-0P 176854-64-1P
 176854-65-2P 176854-66-3P 176854-67-4P 176854-68-5P
 176854-69-6P 176854-70-9P 176854-71-0P 176854-72-1P
 176854-73-2P 176854-74-3P 176854-75-4P 176854-76-5P
 176854-77-6P 176854-78-7P 176854-79-8P 176854-80-1P

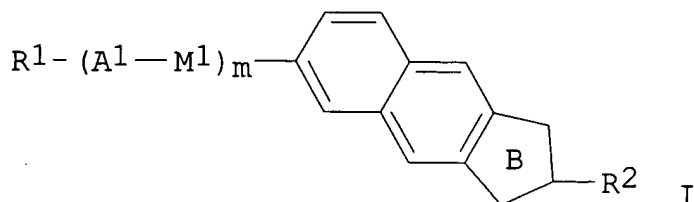
176854-81-2P	176854-82-3P	176854-83-4P	176854-84-5P
176854-85-6P	176854-86-7P	176854-87-8P	176854-88-9P
176854-89-0P	176854-90-3P	176854-91-4P	176854-92-5P
176854-93-6P	176854-94-7P	176854-95-8P	176854-96-9P
176854-97-0P	176854-98-1P	176854-99-2P	176855-00-8P
176855-01-9P	176855-02-0P	176855-03-1P	176855-04-2P
176855-05-3P	176855-06-4P	176855-07-5P	176855-08-6P
176855-09-7P	176855-10-0P	176855-11-1P	176855-12-2P
176855-13-3P	176855-14-4P	176855-15-5P	176855-16-6P
176855-17-7P	176855-18-8P	176855-19-9P	176855-20-2P
176855-21-3P	176855-22-4P	176855-23-5P	176855-24-6P
176855-25-7P	176855-26-8P	176855-27-9P	176855-28-0P
176855-29-1P	176855-30-4P	176855-31-5P	176855-32-6P
176855-33-7P	176855-34-8P	176855-35-9P	176855-36-0P
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176855-41-7P	176855-42-8P	176855-43-9P	176855-44-0P
176855-45-1P	176855-46-2P	176855-47-3P	176855-48-4P
176855-49-5P	176855-50-8P	176855-51-9P	176855-52-0P
176855-53-1P	176855-54-2P	176855-55-3P	176855-56-4P
176855-57-5P	176855-58-6P	176855-59-7P	176855-60-0P
176855-61-1P	176855-62-2P	176855-63-3P	176855-64-4P
176855-65-5P	176855-66-6P	176855-67-7P	176855-68-8P
176855-69-9P	176855-70-2P	176855-71-3P	176855-72-4P
176855-73-5P	176855-74-6P	176855-75-7P	176855-76-8P
176855-77-9P	176855-78-0P	176855-79-1P	176855-80-4P
176855-81-5P	176855-82-6P	176855-83-7P	176855-84-8P
176855-85-9P	176855-86-0P	176855-87-1P	176855-88-2P
176855-89-3P	176855-90-6P	176855-91-7P	176855-92-8P
176855-93-9P	176855-94-0P	176855-95-1P	176855-96-2P
176855-97-3P	176855-98-4P	176855-99-5P	176856-00-1P
176856-01-2P	176856-02-3P	176856-03-4P	176856-04-5P
176856-05-6P	176856-06-7P	176856-07-8P	176856-08-9P
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176856-21-6P	176856-22-7P	176856-23-8P	176856-24-9P
176856-25-0P	176856-26-1P	176856-27-2P	176856-28-3P
176856-29-4P			

(prepn. of dihydro tricyclic compds.)

L68 ANSWER 11 OF 23 HCA COPYRIGHT 2004 ACS on STN

124:328618 Tricyclic compound and its use in liquid crystal mixture for liquid crystal display. Wingen, Rainer; Manero, Javier (Hoechst A.-G., Germany). Ger. Offen. DE 4434974 A1 **19960404**, 29 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1994-4434974 19940930.

GI



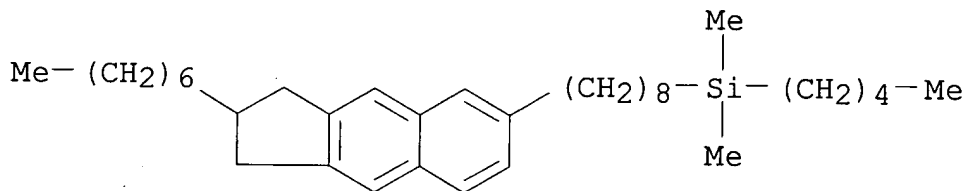
AB The title compd. is represented by I [R1 = F, CN, Cl, CF3; R2 = H, C1-20 alkyl, alkoxy; B = (F-contg.) (satd.) 5-membered ring; A1 = (F-substituted) 1,4-phenylene, 1,4-cyclohexylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, (1,3)-thiazol-2,5-diyl, (1,3)-thiazol-2,4-diyl, (1,3,4)-thiadiazol-2,5-diyl; M1 = single bond, C.tplbond.C, CH2CH2, OCO, COO, CO, OCH2, CH2O, OCOO; m = 0, 1].

IT 176516-67-9P 176516-71-5P 176516-73-7P
176516-75-9P

(prepn. of tricyclic compds.)

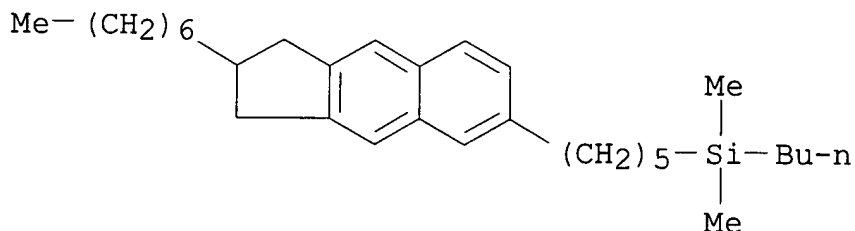
RN 176516-67-9 HCA

CN Silane, [8-(2-heptyl-2,3-dihydro-1H-benz[f]inden-6-yl)octyl]dimethylpentyl- (9CI) (CA INDEX NAME)



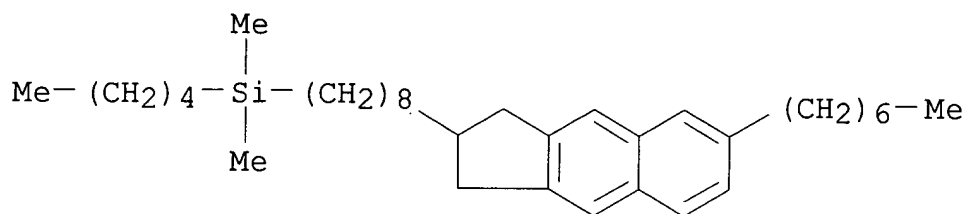
RN 176516-71-5 HCA

CN Silane, butyl[5-(2-heptyl-2,3-dihydro-1H-benz[f]inden-6-yl)pentyl]dimethyl- (9CI) (CA INDEX NAME)

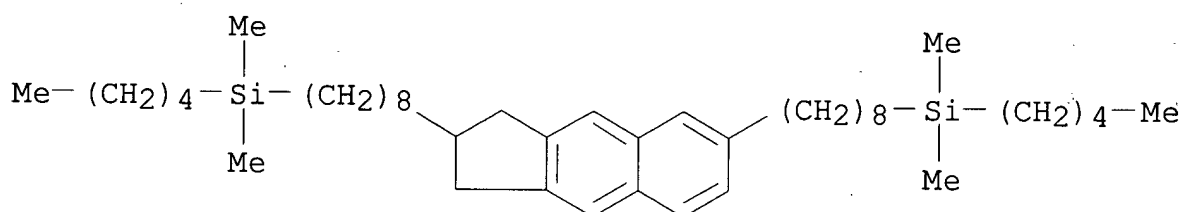


RN 176516-73-7 HCA

CN Silane, [8-(6-heptyl-2,3-dihydro-1H-benz[f]inden-2-yl)octyl]dimethylpentyl- (9CI) (CA INDEX NAME)



RN 176516-75-9 HCA
 CN Silane, [(2,3-dihydro-1H-benz[f]indene-2,6-diyl)di-8,1-octanediyl]bis[dimethylpentyl- (9CI) (CA INDEX NAME)]



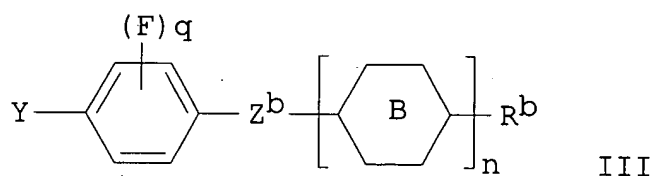
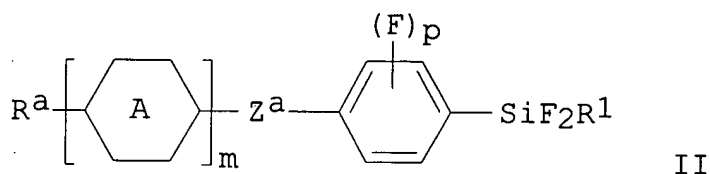
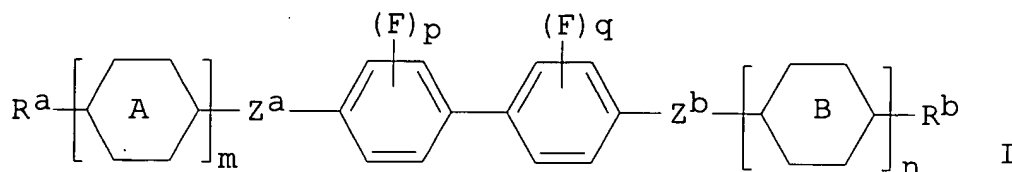
IC ICM C07F007-08
 ICS C07C049-215; C07C043-225; C07C043-20; C07F019-00; C07F009-6539;
 C07C069-035; C07C025-18; C07C013-547; C07D239-26; C07D213-06;
 C09K019-32
 ICA C07C043-21; C07C043-205; C07C049-225; C07C049-227; C07C255-50;
 C07D213-61; C07D285-12; C07D213-65
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 75
 IT **Optical imaging devices**
 (electrooptical liq.-crystal, tricyclic compd. and its use in
 liq. crystal mixt.)
 IT 176516-63-5P 176516-64-6P 176516-65-7P 176516-66-8P
176516-67-9P 176516-68-0P 176516-69-1P 176516-70-4P
176516-71-5P 176516-72-6P **176516-73-7P**
 176516-74-8P **176516-75-9P** 176516-76-0P 176516-77-1P
 176516-78-2P 176516-79-3P 176516-80-6P 176516-81-7P
 176516-82-8P 176516-83-9P 176516-84-0P 176516-85-1P
 176516-86-2P 176516-87-3P 176516-88-4P 176516-89-5P
 176516-90-8P 176516-91-9P 176516-92-0P 176516-93-1P
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 176517-14-9P 176517-15-0P 176517-16-1P 176517-17-2P
 176517-18-3P 176517-19-4P 176517-20-7P 176517-21-8P
 176517-22-9P 176517-23-0P 176517-24-1P 176517-25-2P

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176517-30-9P	176517-31-0P	176517-32-1P	176517-33-2P
176517-34-3P	176517-35-4P	176517-36-5P	176517-37-6P
176517-38-7P	176517-39-8P	176517-40-1P	176517-41-2P
176517-42-3P	176517-43-4P	176517-44-5P	176517-45-6P
176517-46-7P	176517-47-8P	176517-48-9P	176517-49-0P
176517-50-3P	176517-51-4P	176517-52-5P	176517-53-6P
176517-54-7P	176517-55-8P	176517-56-9P	176517-57-0P
176517-58-1P	176517-59-2P	176517-60-5P	176517-61-6P
176517-62-7P	176517-63-8P	176517-64-9P	176517-65-0P
176517-66-1P	176517-67-2P	176517-68-3P	176517-69-4P
176517-70-7P	176517-71-8P	176517-72-9P	176517-73-0P
176517-74-1P	176517-75-2P	176517-76-3P	176517-77-4P
176517-78-5P	176517-79-6P	176517-80-9P	176517-81-0P
176517-82-1P	176517-83-2P	176517-84-3P	176517-85-4P
176517-86-5P	176517-87-6P	176517-88-7P	176517-89-8P
176517-90-1P	176517-91-2P	176517-92-3P	176517-93-4P
176517-94-5P	176517-95-6P	176517-96-7P	176517-97-8P
176517-98-9P	176517-99-0P	176518-00-6P	176518-01-7P
176518-02-8P	176518-03-9P	176518-04-0P	176518-05-1P
176518-06-2P	176518-07-3P	176518-08-4P	176518-09-5P
176518-10-8P	176518-11-9P	176518-12-0P	176518-13-1P
176518-14-2P	176518-15-3P	176518-16-4P	176518-17-5P
176518-18-6P	176518-19-7P	176518-20-0P	176518-21-1P
176518-22-2P	176518-23-3P	176518-24-4P	176518-25-5P
176518-26-6P	176518-27-7P	176518-28-8P	176518-29-9P
176518-30-2P	176518-31-3P	176518-32-4P	176518-33-5P
176518-34-6P	176518-35-7P	176518-36-8P	176518-37-9P
176518-38-0P	176518-39-1P	176518-40-4P	176518-41-5P
176518-42-6P	176518-43-7P	176518-44-8P	176518-45-9P
176518-46-0P	176518-47-1P	176518-48-2P	176518-49-3P
176518-50-6P	176518-51-7P	176518-52-8P	176518-53-9P
176518-54-0P	176518-55-1P	176518-56-2P	176518-57-3P
176518-58-4P	176518-59-5P	176518-60-8P	176518-61-9P
176518-62-0P	176518-63-1P	-	

(prepn. of tricyclic compds.)

L68 ANSWER 12 OF 23 HCA COPYRIGHT 2004 ACS on STN
122:132780 Method for preparation of biphenyl derivatives. Takehara,
Sadao; Oosawa, Masashi; Takatsu, Haruyoshi (Dainippon Ink &
Chemicals, Japan). Jpn. Kokai Tokkyo Koho JP 06239770 A2
19940830 Heisei, 13 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1993-30386 19930219.

GI



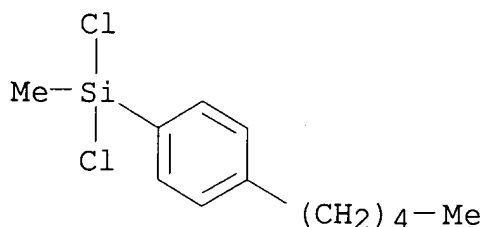
AB Biphenyl derivs. (I; $R^a = \text{F}$, Cl , C1 -16 alkyl, alkoxy, C2 -16 alkenyl, alkenyloxy, alkoxyalkyl, or alkoxyalkoxy, wherein any no. of H in these groups may be substituted with F; ring A, B = trans-1,4-cyclohexylene, 1,4-phenylene which may be substituted with F; $m, n = 0$ -2 and 0.1 to req. $m+n$ to req. 2; $Z^a, Z^b =$ single bond, CH_2CH_2 ; when $m = 0$, $Z^a =$ single bond and when $n = 0$, $Z^b =$ single bond; $p, q = 0$ -4; $R^b = \text{F}$, Cl , Br , cyano, CO_2R^2 , O_2CR^2 , COR^2 , CHO , OH , C1 -16 alkyl, alkoxy, C2 -16 alkenyl, alkenyloxy, alkoxyalkyl, or alkoxyalkoxy, wherein any no. of H in these groups may be substituted with F; $\text{R}^1 = \text{C1}$ -10 alkyl; provided that when $m \geq 1$ and ring A = trans-1,4-cyclohexylene, $R^a = \text{C1}$ -16 alkyl or C2 -16 alkenyl; when $n \geq 1$ and ring B = trans-1,4-cyclohexylene, $R^b = \text{C1}$ -16 alkyl or C2 -16 alkenyl; when $m = n = 0$, $R^a \neq \text{Me}$) are prepd. by coupling of phenyldifluorosilane derivs. (II; $R^a, Z^a, \text{R}^1, m, p =$ same as above) with halobenzene derivs. (III; $Z^b, R^b, n, q =$ same as above; $Y = \text{iodo}, \text{Br}$; when $R^b = \text{H}$, $Y = \text{iodo}$). This process gives in high yields these biphenyl derivs. I which are useful as liq. crystal materials for electrooptical displays. Thus, 34.7 g 4-bromobenzonitrile was added to a soln. of di- μ -chloro-diallylpalladium(II) in THF followed by adding dropwise a soln. of 47.9 g ethyl(4-pentylphenyl)difluorosilane (prepn. given) at room temp. and then a soln. of Bu_4NF in THF (1 M, 760 mL) and the mixt. was allowed to react at 100.degree. for 5 h to give 67.3% 4-(4-pentylphenyl)benzonitrile (IV). IV showed nematic phase at 35.degree..

IT 160975-58-6, Methyl(4-n-pentylphenyl)dichlorosilane

(intermediate for prepn. of biphenyl derivs. as liq. crystals for liq. crystal displays)

RN 160975-58-6 HCA

CN Silane, dichloromethyl(4-pentylphenyl)- (9CI) (CA INDEX NAME)

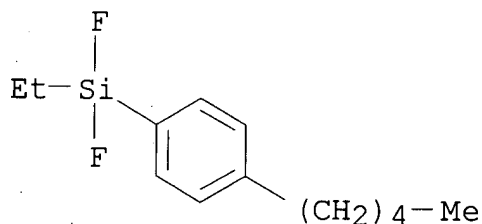


IT 160975-49-5P

(prepn. and coupling of phenyldifluorosilane derivs. with halobenzene deriv. in prepn. of biphenyl derivs. as liq. crystals for liq. crystal displays)

RN 160975-49-5 HCA

CN Silane, ethyldifluoro(4-pentylphenyl)- (9CI) (CA INDEX NAME)

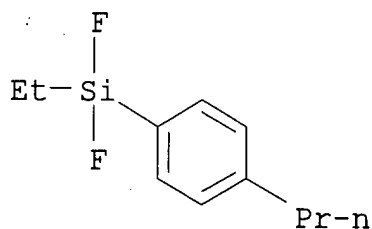


IT 160975-50-8P 160975-51-9P

(prepn. and coupling of phenyldifluorosilane derivs. with halobenzene derivs. in prepn. of biphenyl derivs. as liq. crystals for liq. crystal displays)

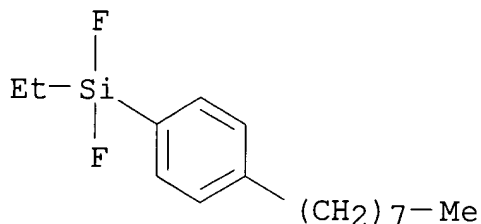
RN 160975-50-8 HCA

CN Silane, ethyldifluoro(4-propylphenyl)- (9CI) (CA INDEX NAME)



RN 160975-51-9 HCA

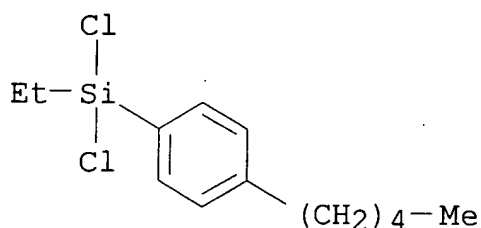
CN Silane, ethyldifluoro(4-octylphenyl)- (9CI) (CA INDEX NAME)



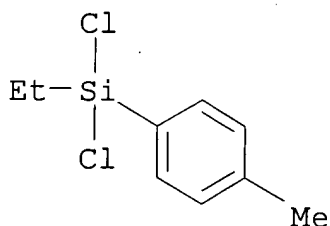
- IC ICM C07C013-28
 ICS C07C001-32; C07C017-26; C07C022-08; C07C025-18; C07C039-04;
 C07C041-30; C07C043-192; C07C043-196; C07C043-205; C07C043-225;
 C07C043-23; C07C047-546; C07C047-55; C07C047-56; C07C047-575;
 C07C049-784; C07C049-80; C07C049-82; C07C049-84
- CC 25-20 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 Section cross-reference(s): 74
- IT **Optical imaging devices**
 (electrooptical liq.-crystal, method for prepn. of biphenyl
 derivs. as liq. crystals for liq. crystal displays by coupling of
 phenyldifluorosilane derivs. with halobenzene derivs.)
- IT **160975-58-6**, Methyl(4-n-pentylphenyl)dichlorosilane
 160975-59-7, Methyl[4-(trans-4-pentylcyclohexyl)phenyl]dichlorosilan
 e 160975-61-1, Methyl[4-(4-pentylphenyl)phenyl]dichlorosilane
 (intermediate for prepn. of biphenyl derivs. as liq. crystals for
 liq. crystal displays)
- IT **160975-49-5P**
 (prepn. and coupling of phenyldifluorosilane derivs. with
 halobenzene deriv. in prepn. of biphenyl derivs. as liq. crystals
 for liq. crystal displays)
- IT **160975-50-8P 160975-51-9P 160975-52-0P**
 160975-53-1P 160975-54-2P 160975-55-3P 160975-56-4P
 (prepn. and coupling of phenyldifluorosilane derivs. with
 halobenzene derivs. in prepn. of biphenyl derivs. as liq.
 crystals for liq. crystal displays)
- L68 ANSWER 13 OF 23 HCA COPYRIGHT 2004 ACS on STN
- 121:312245 Manufacture of biaryl compound from chlorosilyl-substituted
 arom. derivative. Hatanaka, Yasuo; Hyama, Tamejiro (Sagami Chem
 Res, Japan). Jpn. Kokai Tokkyo Koho JP 06239766 A2 **19940830**
 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
 1993-51291 19930218.
- AB The biaryl compd. Ar-Ar' is manufd. by contacting a
 chlorosilyl-substituted arom. compd. ArSiR_mCl_{3-m} [I; Ar =
 (substituted) (heterocyclic) arom. group; R = alkyl, Ar; m = 0-2]
 and fluoride ion-source, followed by adding arom. compd. YAr' [II; Y
 = leaving group; Ar' = (substituted) (heterocyclic) arom. group] and
 a Group X transition metal catalyst. II may be contacted with I and

the fluoride before adding the metal catalyst. The compd. is useful for imaging devices.

- IT **159259-35-5**, Ethyl(dichloro)(4-pentylphenyl)silane
(manuf. of biaryl compd. from chlorosilylate)
RN 159259-35-5 HCA
CN Silane, dichloroethyl(4-pentylphenyl)- (9CI) (CA INDEX NAME)



- IT **135273-60-8**, Ethyl(dichloro)(4-methylphenyl)silane
(reaction with arom. bromide; manuf. of biaryl compd. from chlorosilylate)
RN 135273-60-8 HCA
CN Silane, dichloroethyl(4-methylphenyl)- (9CI) (CA INDEX NAME)



- IC ICM C07B037-04
ICS B01J031-24; C07C001-32; C07C015-14; C07C017-26; C07C022-08;
C07C025-18; C07C041-30; C07C043-225; C07C045-68; C07C047-546;
C07C049-782; C07C049-84; C07C067-343; C07C069-94; C07C253-30;
C07C255-50; C07C255-54; C07D213-30
ICA C07B061-00
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 25
IT **Optical imaging devices**
(manuf. of biaryl compd. from chlorosilylate for)
IT **159259-35-5**, Ethyl(dichloro)(4-pentylphenyl)silane
159259-36-6, Ethyl(dichloro)(3-methoxyphenyl)silane
(manuf. of biaryl compd. from chlorosilylate)
IT **130952-94-2**, Ethyl(dichloro)(4-methoxyphenyl)silane
135273-60-8, Ethyl(dichloro)(4-methylphenyl)silane
(reaction with arom. bromide; manuf. of biaryl compd. from

chlorosilylate)

L68 ANSWER 14 OF 23 HCA COPYRIGHT 2004 ACS on STN

121:145544 liquid-crystal display device. Chino, Eiji (Seiko Epson Corp, Japan). Jpn. Kokai Tokkyo Koho JP 05323296 A2
19931207 Heisei, 8 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1992-131238 19920525.

AB A colored liq.-crystal display device which becomes nearly transparent upon applying an elec. potential comprises a cell sealed therein a compn. obtained by mixing low-mol.-wt. liq. crystals with a polymer in which a side chain showing dichroism is bonded to a cyclic main chain.

IT 157354-64-8

(dichroic liq.-crystal compns. contg., for display devices)

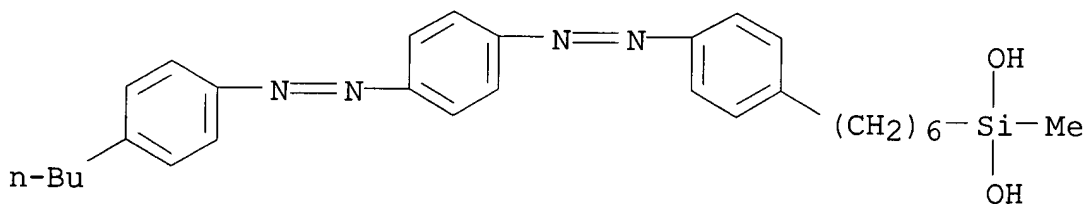
RN 157354-64-8 HCA

CN Silanecarboxylic acid, dihydroxymethyl-, 6-[[4'-[(4-cyanophenoxy)carbonyl][1,1'-biphenyl]-4-yl]oxy]hexyl ester, polymer with [6-[4-[[4-[(4-butylphenyl)azo]phenyl]azo]phenyl]hexyl]methylsilanediol, methyl[6-[4-(2-methylbutyl)phenyl]hexyl]silanediol and methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 157354-63-7

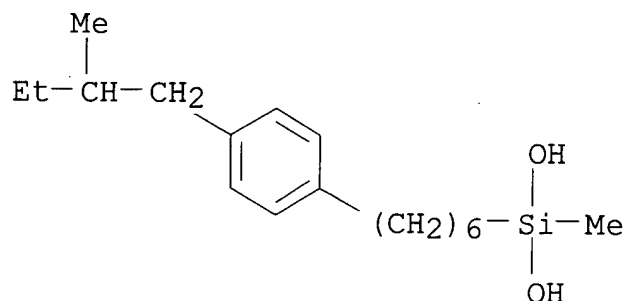
CMF C29 H38 N4 O2 Si



CM 2

CRN 157354-62-6

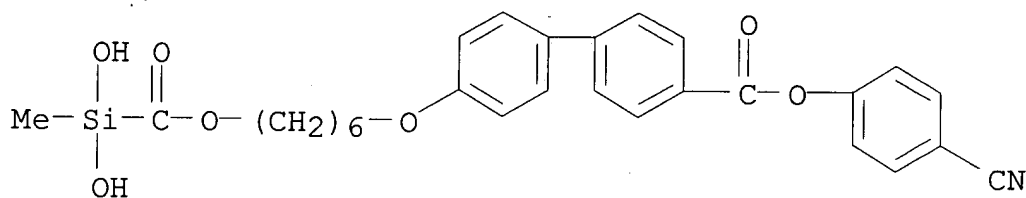
CMF C18 H32 O2 Si



CM 3

CRN 157354-61-5

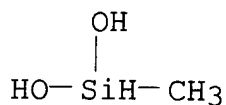
CMF C28 H29 N 07 Si



CM 4

CRN 43641-90-3

CMF C H6 O2 Si



IC ICM G02F001-1333

ICS G02F001-136; G02F001-137

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Optical imaging** devices

(electrooptical liq.-crystal, contg. dichroic polymers)

IT 157354-60-4 **157354-64-8** 157354-66-0

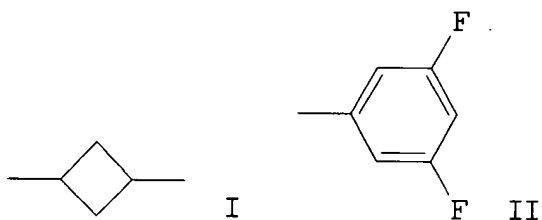
(dichroic liq.-crystal compns. contg., for display devices)

L68 ANSWER 15 OF 23 HCA COPYRIGHT 2004 ACS on STN

120:335794 Fluorovinylene compounds, liquid crystal media containing

them, and displays employing the media. Bartmann, Ekkehard; Hittich, Reinhard; Finkenzeller, Ulrich; Eidenschink, Rudolf (Merck Patent G.m.b.H., Germany). Ger. Offen. DE 4205970 A1 19930819, 57 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1992-4205970 19920227. PRIORITY: DE 1992-4204253 19920213.

GI

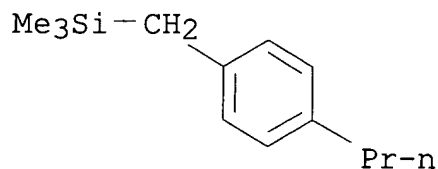


AB The title compds. are described by the general formula
 $R-(A1-Z1)_m-(A2)_n-CX:CY-(A3-Z2)_o-(A4)_p-Q$ ($R = H$, an unsubstituted, singly substituted with CN or CF_3 , or at least singly substituted with a halogen atom $C1-15$ alkyl or alkenyl residue in which .gtoreq.1 CH_2 group may be replaced with $-O-$, $-S-$, I , $-CO-$, $-CO-O-$, $-O-CO-$, or $-O-CO-O-$ groups with the restriction that no O atom is bound directly with another O atom; $A1$, $A2$, $A3$, and $A4$ are independently selected from (a) trans-1,4-cyclohexylene groups in which .gtoreq.1 nonadjacent CH_2 groups may be replaced by $-O-$ and/or $-S-$ (b) 1,4-phenylene groups in which 1 or 2 CH groups may be replaced by N , and (c) 1,4-cyclohexenylene, 1,4-bicyclo(2,2,2)-octylene, piperidine-1,4-diyl, naphthalene-2,6-diyl, decahydronaphthalene-2,6-diyl, and 1,2,3,4-tetrahydronaphthalene-2,6-diyl with the added possibility that the residues in a and b may be singly or multiply substituted with CN or F ; $Z1$ and $Z2$ are independently selected from $-CO-O-$, $-O-CO-$, $-CH_2O-$, $-OCH_2-$, $-CH_2CH_2-$, $-CH:CH-$, $-C.tplbond.C-$, or single bonds, and 1 of $Z1$ and $Z2$ may be $-(CH_2)_4-$ or $-CH:CH-CH_2CH_2-$; 1 of X and Y is F and the other is H or F ; $m = 0$ or 1 ; $n = 1$ or 2 ; $o = 0$ or 1 ; $p = 1$ or 2 ; and $Q = F$, Cl , CN , CF_3 , CF_2H , CH_2F , OCF_3 , OCF_2H , OCF_2 , OCF_2Cl , $COCF_3$, $COCF_2H$, $COCF_2Cl$, $CH:CF_2$, or a perfluorinated $C1-10$ alkyl or alkoxy group, with the restriction that, if $Q = F$, Cl , or CN , then $A4 = II$). Liq. crystal media consisting of .gtoreq.2 components are described in which the above compds. comprise .gtoreq.1 of the components; liq.-crystal and electrooptical displays employing the media are also described.

IT 155364-18-4, Trimethyl-(4-propylbenzyl)silane
 (reaction of, in fluorovinylene deriv. liq. crystal prepn.)

RN 155364-18-4 HCA

CN Silane, trimethyl[(4-propylphenyl)methyl]- (9CI) (CA INDEX NAME)



IC ICM C07C025-24

ICS C07C255-54; C07C021-18; C07C255-50; C07C043-225; C07D211-36;
C07D339-08; C07D335-02; C07D319-06; C07D319-12; C09K019-06;
G02F001-13ICA C07D309-02; C07D309-16; C07D227-06; C07D247-00; C07D401-12;
C07D405-12; C07D409-12; C09K019-16CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 23, 74IT **Optical imaging** devices
(electrooptical liq.-crystal, using fluorovinylene deriv.-contg.
media)IT 75-08-1, Ethanethiol 77-48-5, 1,3-Dibromo-5,5-dimethylhydantoin
109-63-7, Boron trifluoride etherate 405-50-5,
p-Fluorophenylacetic acid 407-14-7, 4-Trifluoromethoxybromobenzene
460-00-4, 1-Bromo-4-fluorobenzene 538-68-1, Pentylbenzene
61203-96-1, trans-1-Phenyl-4-pentylcyclohexane **155364-18-4**
, Trimethyl-(4-propylbenzyl)silane 155364-19-5 155364-20-8,
.alpha.,.beta.,.beta.-Trifluoro-4-trans-(4-pentylcyclohexyl)styrene
(reaction of, in fluorovinylene deriv. liq. crystal prepn.)

L68 ANSWER 16 OF 23 HCA COPYRIGHT 2004 ACS on STN

118:264859 Photovoltaic elements. Kanai, Masahiro (Canon K. K., Japan).
Jpn. Kokai Tokkyo Koho JP 04199687 A2 **19920720** Heisei,
24 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-326007
19901129.AB A **semiconductor-insulator-semiconductor** junction
photovoltaic element comprises: a polyorganosilane
semiconductor layer consisting of A[R₁(R₂)Si]_n[Si(R₃)R₄]_mA'
(R₁ = C₁-2 alkyl; R₂ = C₃-8 alkyl, cycloalkyl, aryl, aralkyl; R_{3,4} =
C₁-4 alkyl; A, A' = C₁-12 alkyl, cycloalkyl, aryl, aralkyl; m, n =
polymn. ratio; m + n = 1; 0 .ltoreq. m < 1; 0 < n .ltoreq. 1; av.
mol. wt. 6,000-200,000); and a dispersant for forming a longitudinal
n-gradient in the layer, wherein, specifically, the n increases in
the direction parallel to the light propagation. The elements,
having improved photoconversion efficiencies, are suited for use in
the large-area devices.

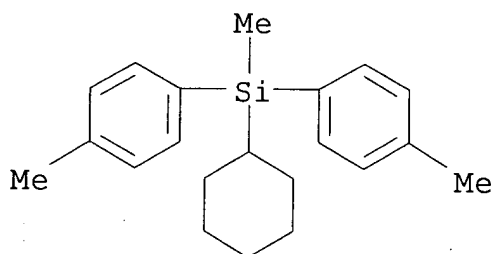
IT 2097-03-2P 138455-38-6P

(prepn. and use of, as photovoltaic **semiconductive**

thin-film active layers)

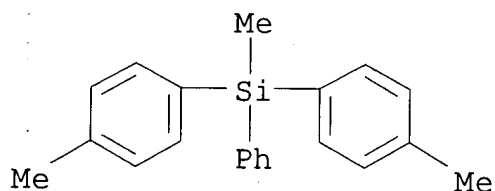
RN 2097-03-2 HCA

CN Silane, cyclohexylmethylbis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 138455-38-6 HCA

CN Silane, methylbis(4-methylphenyl)phenyl- (9CI) (CA INDEX NAME)



IC ICM H01L031-04

ICS H01L029-28

CC 76-5 (Electric Phenomena)

Section cross-reference(s): 38, 52, 74

ST photovoltaic device polyorganosilane index gradient;
semiconductor insulator **semiconductor** photovoltaic device

IT Photoelectric devices

(semiconductive organopolysilane active layers for)

IT Semiconductor junctions

(semiconductor-insulator-semiconductor, in photovoltaic elements, contg. organopolysilane active layer)

IT 1314-35-8, Tungsten oxide (WO₃), uses 7631-86-9, Silica, uses (microparticles, n-modulating dispersants, in photovoltaic semiconductive polyorganosilane layers)IT 791-29-7P 2097-03-2P 18662-94-7P 88993-02-6DP, undecyl or Ph terminated 133644-67-4DP, hexadecyl or toluyl terminated 138455-34-2P 138455-36-4P **138455-38-6P** 138455-40-0P 138455-42-2P 138895-45-1DP, Bu terminated 138895-46-2DP, p-toluyl or decyl terminated 139254-31-2P 139294-82-9P (prepn. and use of, as photovoltaic semiconductive thin-film active layers)

L68 ANSWER 17 OF 23 HCA COPYRIGHT 2004 ACS on STN

118:264858 Photovoltaic elements. Kanai, Masahiro (Canon K. K., Japan).
Jpn. Kokai Tokkyo Koho JP 04199686 A2 **19920720** Heisei,
24 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-326006
19901129.

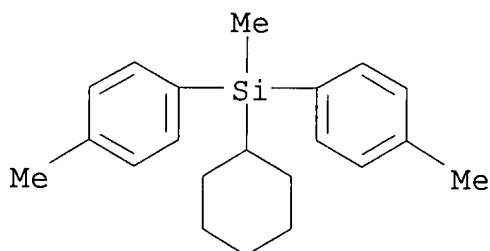
AB A metal-insulator-**semiconductor**-junction photoelec.
element comprises: a polyorganosilane **semiconductor** layer
consisting of $A[R_1(R_2)Si]_n[Si(R_3)R_4]mA'$ ($R_1 = C1-2$ alkyl; $R_2 = C3-8$
alkyl, cycloalkyl, aryl, aralkyl; $R_{3,4} = C1-4$ alkyl; $A, A' = C1-12$
alkyl, cycloalkyl, aryl, aralkyl; $m, n =$ polymn. ratio; $m + n = 1$; 0
 $\leq m < 1$; $0 < n \leq 1$; av. mol. wt. 6,000-200,000); and a
dispersant for forming a longitudinal n-gradient in the layer,
wherein, specifically, the n increases in the direction parallel to
the light propagation. The elements, having improved
photoconversion efficiencies, are suited for use in the large-area
devices.

IT **2097-03-2P 138455-38-6P**

(prepn. and use of, as **semiconductor** layers for
thin-film photovoltaic devices)

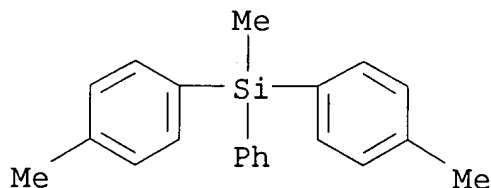
RN 2097-03-2 HCA

CN Silane, cyclohexylmethylbis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 138455-38-6 HCA

CN Silane, methylbis(4-methylphenyl)phenyl- (9CI) (CA INDEX NAME)



IC ICM H01L031-04

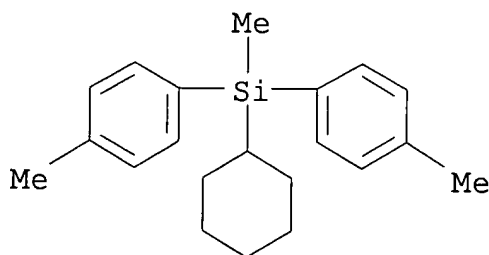
ICS H01L029-28

CC 76-5 (Electric Phenomena)

Section cross-reference(s): 38, 52, 74

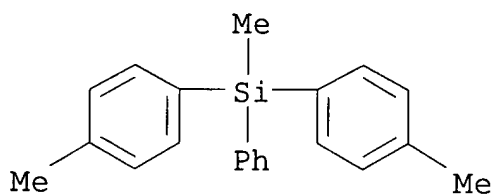
IT **Semiconductor** junctions

- (MIS, in photovoltaic elements, contg. organopolysilane active layer)
- IT Photoelectric devices
(**semiconductive** organopolysilane active layers for)
- IT 1314-35-8, Tungsten oxide (WO₃), properties 7631-86-9, Silica, properties
(microparticles, n-modulating dispersants, in photovoltaic **semiconductive** polyorganosilane layers)
- IT 791-29-7P **2097-03-2P** 18662-94-7P 88993-02-6P
133644-67-4P 138455-34-2P 138455-36-4P **138455-38-6P**
138455-40-0P 138455-42-2P 138895-45-1P 138895-46-2P
139254-31-2P 139294-82-9P
(prepn. and use of, as **semiconductor** layers for thin-film photovoltaic devices)
- L68 ANSWER 18 OF 23 HCA COPYRIGHT 2004 ACS on STN
- 118:264857 Photoelectric elements. Kanai, Masahiro; Fujioka, Yasushi; Sano, Masafumi; Yoshino, Toshihito; Koda, Yuzo (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04199685 A2 **19920720** Heisei, 23 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-326005 19901129.
- AB A Schottky-junction photoelec. element comprises: a polyorganosilane **semiconductor** layer consisting of A[R₁(R₂)Si]_n[Si(R₃)R₄]_mA' (R₁ = C₁-2 alkyl; R₂ = C₃-8 alkyl, cycloalkyl, aryl, aralkyl; R_{3,4} = C₁-4 alkyl; A, A' = C₁-12 alkyl, cycloalkyl, aryl, aralkyl; m, n = polymn. ratio; m + n = 1; 0 .ltoreq. m < 1; 0 < n .ltoreq. 1; av. mol. wt. 6,000-200,000); and a dispersant for forming a longitudinal n-gradient in the layer, wherein, specifically, the n increases in the direction parallel to the light propagation. The elements, having improved photoconversion efficiencies, are suited for use in the large area devices.
- IT **2097-03-2P 138455-38-6P**
(prepn. and use of, as photovoltaic **semiconductive** thin-film active layers)
- RN 2097-03-2 HCA
- CN Silane, cyclohexylmethylbis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 138455-38-6 HCA

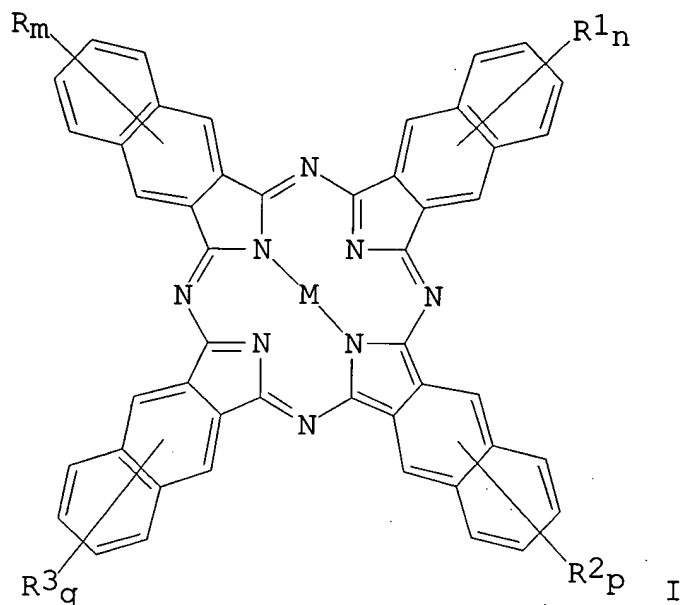
CN Silane, methylbis(4-methylphenyl)phenyl- (9CI) (CA INDEX NAME)



IC ICM H01L031-04
ICS H01L029-28
CC 76-5 (Electric Phenomena)
Section cross-reference(s): 38, 52, 74
ST photovoltaic device polyorganosilane **semiconductor**;
Schottky junction **semiconductor** polyvoltaic device
IT Photoelectric devices
(**semiconductive** organopolysilane active layers for)
IT **Semiconductor** junctions
(Schottky, in photoelec. elements, contg. **semiconductive**
organopolysilane active layer)
IT 7631-86-9, Silica, uses
(microparticles, n-modulating dispersants, in photoelec.
semiconductive polyorganosilane layers)
IT 1314-35-8, Tungsten oxide (WO₃), properties
(microparticles, n-modulating dispersants, in photoelec.
semiconductive polyorganosilane layers)
IT 791-29-7P **2097-03-2P** 18662-94-7P 88993-02-6P
133644-67-4P 138455-34-2P 138455-36-4P **138455-38-6P**
138455-40-0P 138455-42-2P 138895-45-1P 138895-46-2P
139254-31-2P 139294-82-9P
(prepn. and use of, as photovoltaic **semiconductive**
thin-film active layers)

L68 ANSWER 19 OF 23 HCA COPYRIGHT 2004 ACS on STN
114:33107 Electrophotographic photoreceptors using metal
naphthalocyanine as charge-generating agent. Masaoka, Toshihiro;
Matsumoto, Mansuke; Iwasaki, Yasuhisa; Takahashi, Sadao; Kitamura,
Koji (Yamamoto Kasei K. K., Japan). Jpn. Kokai Tokkyo Koho JP
02116855 A2 **19900501** Heisei, 5 pp. (Japanese). CODEN:
JKXXAF. APPLICATION: JP 1988-270397 19881026.

GI



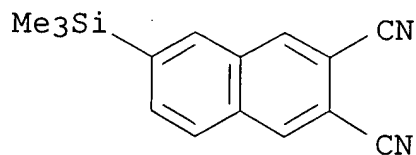
AB The title photoreceptors comprise a conductive support with a coating of a photoconductive layer contg., as a charge-generating agent, a metal naphthalocyanine I (R, R1-3 = alkyl, alkoxy, aryl, arylthio, alkylsilyl; M = metal, metal oxide, metal halide; m, n, p, q = 1-4). The photoreceptors show good sensitivity toward **semiconductor** lasers. Thus, an Al substrate was coated with a dispersion contg. vanadyl tetra(trimethylsilyl) naphthalocyanine (II) and p-diethylaminobenzaldehyde diphenylhydrazone to give a photoreceptor, which showed high sensitivity at 800 nm. II was prepd. from 6-trimethylsilyl-2,3-dicyanonaphthalene and vanadyl trichloride.

IT **106811-45-4**, 6-Trimethylsilyl-2,3-dicyanonaphthalene

(reaction of, for vanadyl naphthalocyanine deriv. prepn.)

RN 106811-45-4 HCA

CN 2,3-Naphthalenedicarbonitrile, 6-(trimethylsilyl)- (9CI) (CA INDEX NAME)



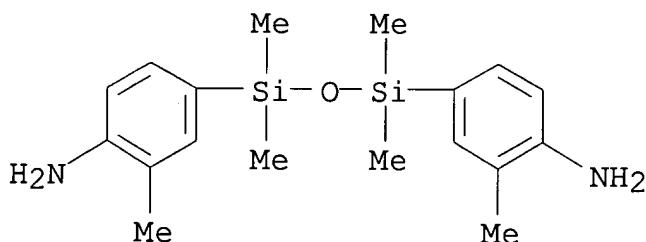
IC ICM G03G005-06
ICS C09B047-04

- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 78
- IT 7727-18-6, Vanadyl trichloride 106811-45-4,
6-Trimethylsilyl-2,3-dicyanonaphthalene
(reaction of, for vanadyl naphthalocyanine deriv. prepn.)
- L68 ANSWER 20 OF 23 HCA COPYRIGHT 2004 ACS on STN
100:15403 Liquid crystal display devices. (Hitachi, Ltd., Japan). Jpn.
Kokai Tokkyo Koho JP 57164715 A2 19821009 Showa, 7 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-49450 19810403.
- AB Mol. orientation controlling films of liq. crystal display devices
are prepd. by using copolymers of 2-4 dibasic acid halide(s) with
.ltoreq.1 compd.(s) selected from dibasic acid hydrazides,
diaminocarbonamides, and diamine compds. (diamine-hydrazide
combination is excluded). Thus, electrode plates were coated with a
soln. of 4,4'-diamino-3-carbamoyldiphenyl ether-bis(3-
aminopropyldimethylsilyl ether-isophthaloyl chloride copolymer and
heated at 250-300.degree. to give mol. orientation controlling
films.
- IT 88251-56-3
(mol. orientation controlling films from, for liq. crystal
display devices)
- RN 88251-56-3 HCA
- CN 1,3-Benzenedicarbonyl dichloride, polymer with 2-amino-5-(4-
aminophenoxy)benzamide and 4,4'-(1,1,3,3-tetramethyl-1,3-
disiloxanediyl)bis[2-methylbenzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 78736-40-0

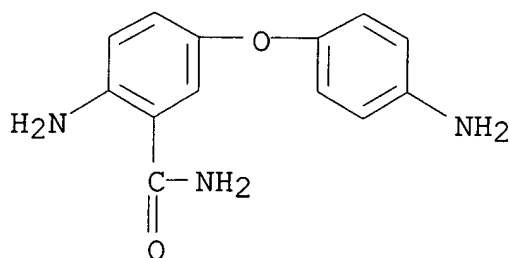
CMF C18 H28 N2 O Si2



CM 2

CRN 40763-98-2

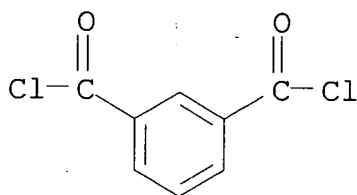
CMF C13 H13 N3 O2



CM 3

CRN 99-63-8

CMF C8 H4 Cl2 O2



IC G02F001-133; C09K003-34

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 75, 76

IT **Optical imaging** devices

(electro-, liq. crystal, mol. orientation controlling films for)

IT 88251-55-2 **88251-56-3** 88251-57-4 88266-66-4

(mol. orientation controlling films from, for liq. crystal display devices)

L68 ANSWER 21 OF 23 HCA COPYRIGHT 2004 ACS on STN

99:203669 Liquid crystal display devices. (Hitachi, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 57144526 A2 **19820907** Showa, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-29904 19810304.

AB Polymers prepd. by condensation copolymn. of (1) a dibasic acid hydrazide, (2) a diamine compd., and (3) .gtoreq.1 compd. selected from 2-4 basic acid halides and tetracarboxylic acid dianhydrides are used for prepn. of mol. orientation-controlling films of liq. crystal display devices. Thus, an isophthalic acid dihydrazide-p-phenylenediamine-pyromellitic dianhydride copolymer (95:5:100 mol ratio) soln. was offset printed on electrode plates for liq. crystal display devices and heated at 250.degree. to form mol. orientation-controlling films.

IT **81139-69-7 87748-93-4**

(liq. crystal display device mol. orientation controlling films from)

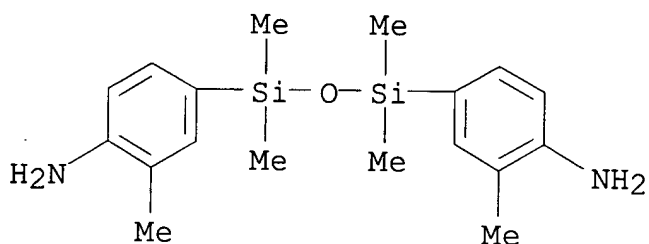
RN 81139-69-7 HCA

CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and 4,4'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[2-methylbenzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 78736-40-0

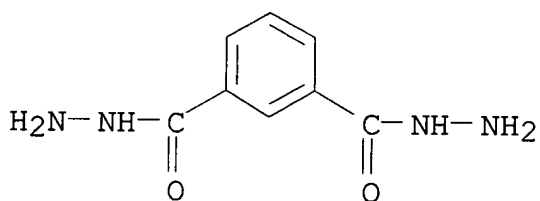
CMF C18 H28 N2 O Si2



CM 2

CRN 2760-98-7

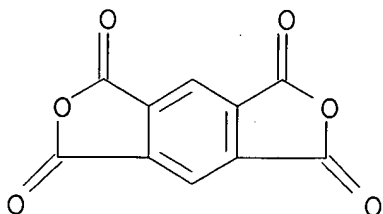
CMF C8 H10 N4 O2



CM 3

CRN 89-32-7

CMF C10 H2 O6



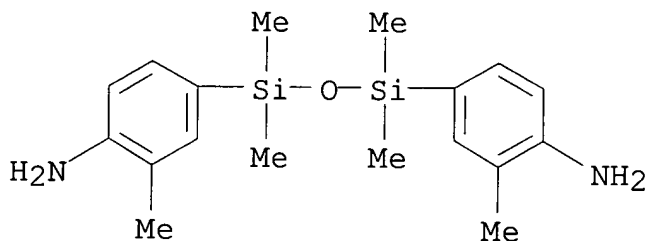
RN 87748-93-4 HCA

CN 1,4-Benzenedicarboxylic acid, dihydrazide, polymer with
1,3-benzenedicarbonyl dichloride and 4,4'-(1,1,3,3-tetramethyl-1,3-
disiloxanediyl)bis[2-methylbenzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 78736-40-0

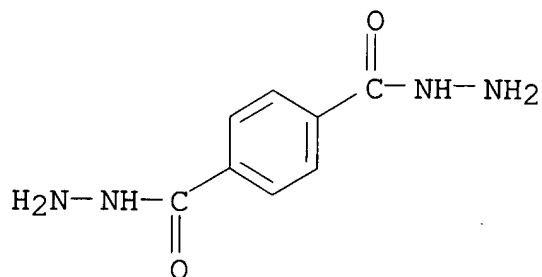
CMF C18 H28 N2 O Si2



CM 2

CRN 136-64-1

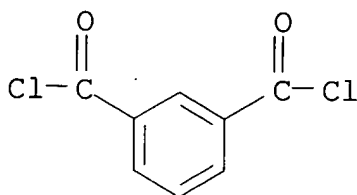
CMF C8 H10 N4 O2



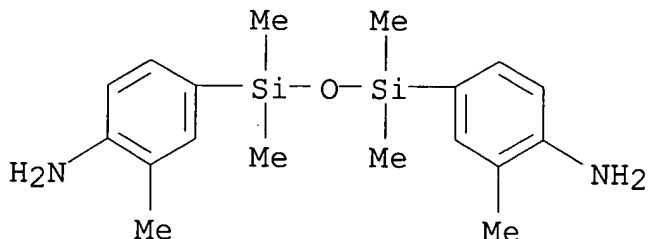
CM 3

CRN 99-63-8

CMF C8 H4 Cl2 O2



- IC G02F001-133; C09K003-34
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 75, 76
 IT **Optical imaging devices**
 (electro-, liq.-crystal, mol. orientation controlling films for)
 IT 80180-76-3 80200-81-3 81139-67-5 **81139-69-7**
 87748-91-2 **87748-93-4** 87748-94-5 87766-03-8
 87766-04-9
 (liq. crystal display device mol. orientation controlling films from)
- L68 ANSWER 22 OF 23 HCA COPYRIGHT 2004 ACS on STN
 99:14034 Orientation layers for liquid crystal display devices.
 Yokokura, Hisao; Kitamura, Teruo; Ito, Ren; Nakano, Fumio;
 Morishita, Hirosada; Sato, Mikio; Kando, Yashuhiko (Hitachi, Ltd. ,
 Japan). Ger. Offen. DE 3128393 A1 **19830210**, 50 pp.
 (German). CODEN: GWXXBX. APPLICATION: DE 1981-3128393 19810717.
- AB Orientation layers for liq. crystal display devices are prepd. by
 the thermal cyclization of polyhydrazidic-amidic acids prepd. by the
 reaction of a diamine and dihydrazide with a tetracarboxylic acid
 anhydride. Thus, a soln. contg. isophthalic acid dihydrazide 0.095,
 p-phenylenediamine 0.005, pyromellitic acid dianhydride 0.1 mol, and
 N-methyl-2-pyrrolidone was stirred 3 h at 5.degree. to give a
 polymer soln. with 12% solids. This soln. was thinned with
 N-methyl-2-pyrrolidone to give 7% solids and then printed by an
 offset printing press on the electrode plate of a liq. crystal
 display device followed by heating at 250.degree. for 1 h to give
 orientation layers with a thickness of 1000, 2000, or 3000 .ANG.
 thickness. When this plate was used in a liq. crystal display
 device, overall, the partially reflected image-pattern was not
 visible to the naked eye at a ref. angle of 30.degree..
- IT **78736-40-0D**, cyclized
 (mol. orientation layers from, for liq. crystal display devices)
- RN 78736-40-0 HCA
 CN Benzenamine, 4,4'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[2-
 methyl- (9CI) (CA INDEX NAME)



IC C09K003-34; G09F009-35; G02F001-13

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Optical imaging devices**

(electro-, liq.-crystal, polyhydrazimide-imide mol. orientation layers for)

IT 51749-55-4D, cyclized **78736-40-0D**, cyclized 80180-76-3D, cyclized 80200-81-3D, cyclized 81139-67-5 86153-06-2D, cyclized 86153-07-3D, cyclized 86153-08-4D, cyclized 86153-09-5D, cyclized 86153-10-8D, cyclized 86153-11-9D, cyclized 86153-12-0D, cyclized 86166-03-2 (mol. orientation layers from, for liq. crystal display devices)

L68 ANSWER 23 OF 23 HCA COPYRIGHT 2004 ACS on STN

96:133271 Liquid crystal display devices. (Hitachi, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56114927 A2 **19810909** Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1980-16654 19800215.

AB Mol. orientation-controlling films for liq. crystal display devices are prepd. by using copolymers of H₂NNHCOZCONHNH₂ (Z = aliph. or arom. moiety), arom. diamines (or siloxanediamines), and tetracarboxylic dianhydrides. Thus, isophthalic acid dihydrazide-p-phenylenediamine-pyromellitic dianhydride copolymer was used to prep. liq. crystal display cells in which liq. crystal mols. showed excellent alignment.

IT **81139-69-7**

(mol. orientation-controlling films contg., for liq. crystal display devices)

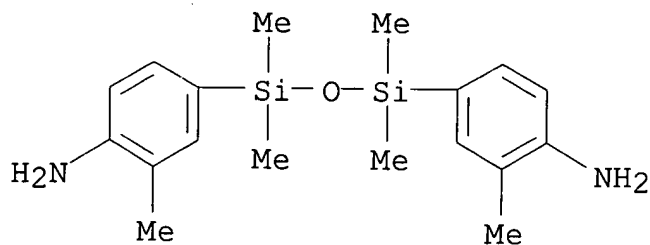
RN 81139-69-7 HCA

CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and 4,4'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[2-methylbenzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 78736-40-0

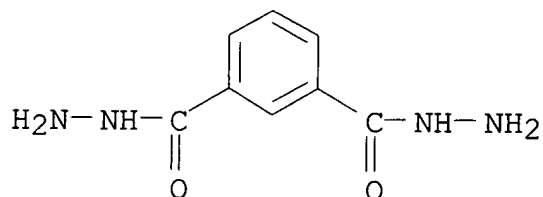
CMF C18 H28 N2 O Si2



CM 2

CRN 2760-98-7

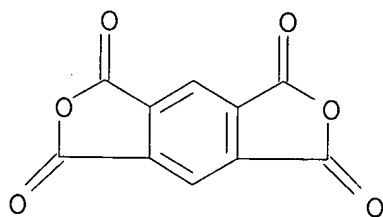
CMF C8 H10 N4 O2



CM 3

CRN 89-32-7

CMF C10 H2 O6



IC G02F001-133; C09K003-34; G09F009-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Optical imaging** devices

(electro-, liq.-crystal, mol. orientation-controlling films for, polyimides for)

IT 919-30-2 2530-83-8 80180-76-3 80200-81-3 81139-67-5

81139-69-7 81176-07-0

(mol. orientation-controlling films contg., for liq. crystal display devices)